Nikkormat FS (31F1B)

Nikkormat FT (31F2B)

NIPPON KOGAKU K. K.

JAPAN

(66·7·d) H

C O N T E N T S

1. Exploded Drawings

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2. Parts List

Commonly used for FS and FT (Work No. 31FB) ..... 27 - 49

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N O T E

1. (a) Parts (or subassemblies) numbers [31FB - ..] :

For the parts (or subassemblies) commonly used for Nikkormat FS and FT.

(b) Parts (or subassemblies) numbers [31F1B - S..] :

For the parts (or subassemblies) exclusively used for Nikkormat FS.

(c) Parts (or subassemblies) numbers [31F2B - T..] :

For the parts (or subassemblies) exclusively used for Nikkormat FT.

2. Marks in the "Term of Sale" column of the parts list are:

○ ..... Can be supplied individually

△ ..... Not supplied individually but only as subassembly

○△ ..... Supplied either as part or subassembly

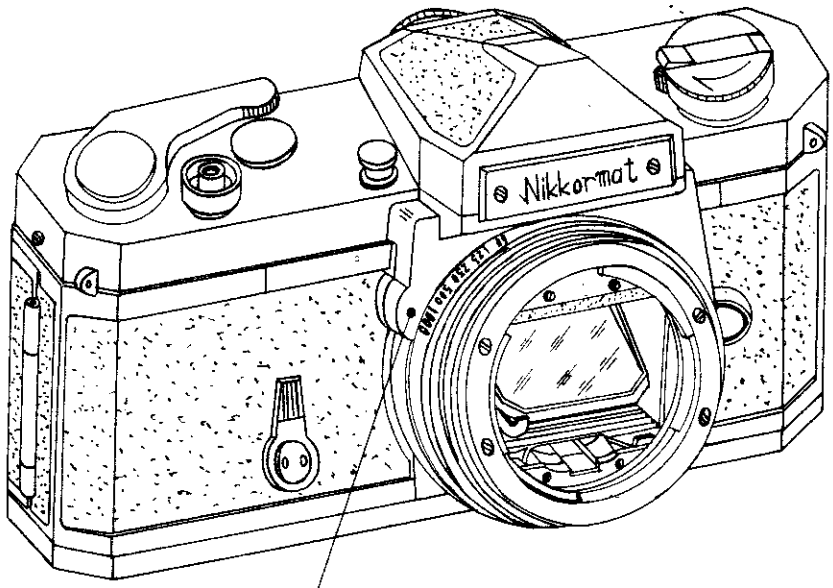
× ..... Not considered as repair part

◎ ..... Delivered as a product from the Sales Department (i.e., not supplied as repair part)

N.K.K. J-434 A4 1-S 2000 M

External view

Nikkormat FS

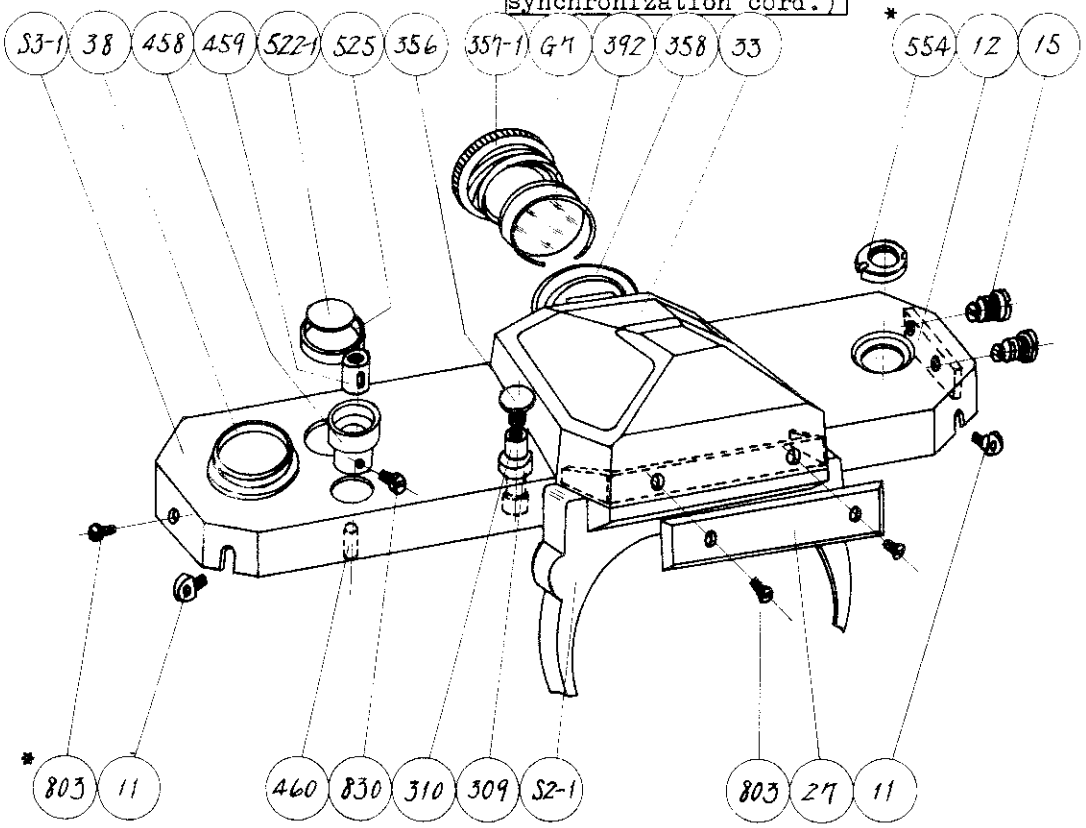


Index for shutter speed setting.

FS - Fig. 1

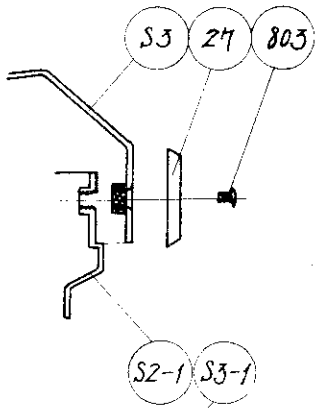
Camera top cover

Remove these parts after taking off rewind crank and film advance lever; the top cover can be detached. (Take care of the synchronization cord.)

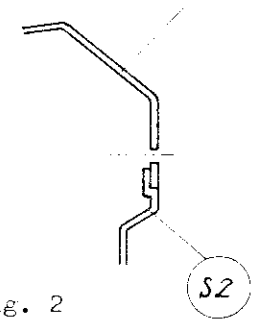


Note: In assembling the front plate to the top cover, if their earlier and new type are used together, take the following measures:

a) Assembling S3 of earlier to S2-1 of new type
After filing off the threaded projection on the back side of S3, attach S3 under the part #27 to S2-1 of new type.



b) Assembling S3-1 of new to S2-1 of earlier type
Since S2 of earlier type has no thread but only a hole, the assembling will be impossible. Therefore, both parts should at the same time, be of earlier or new type.



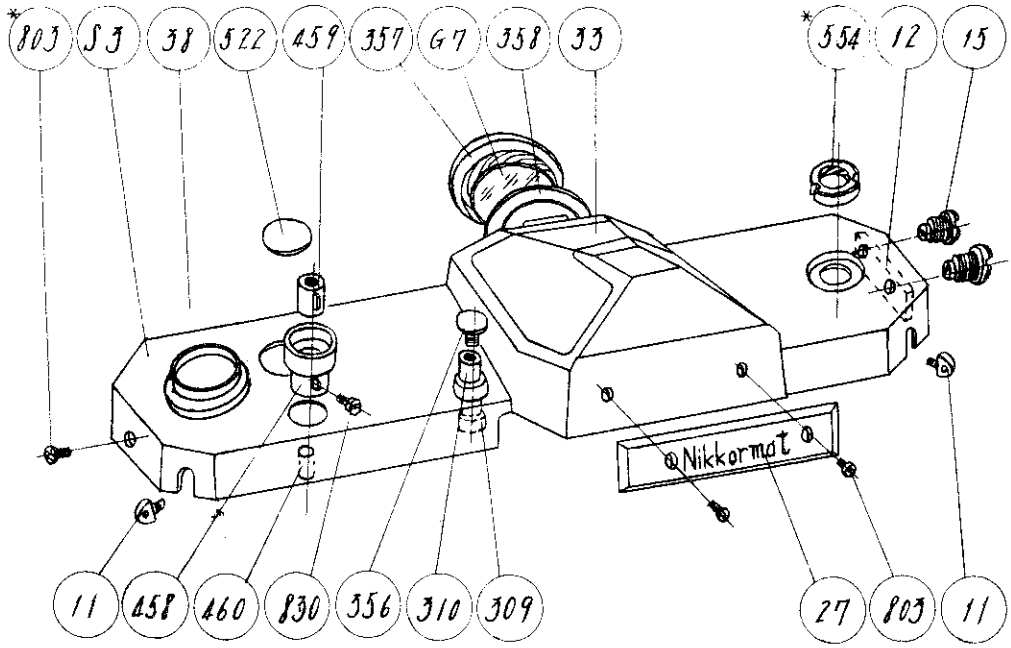
FS - Fig. 2

N.K.K. J-434 A4 1< 2000 M

Camera top cover

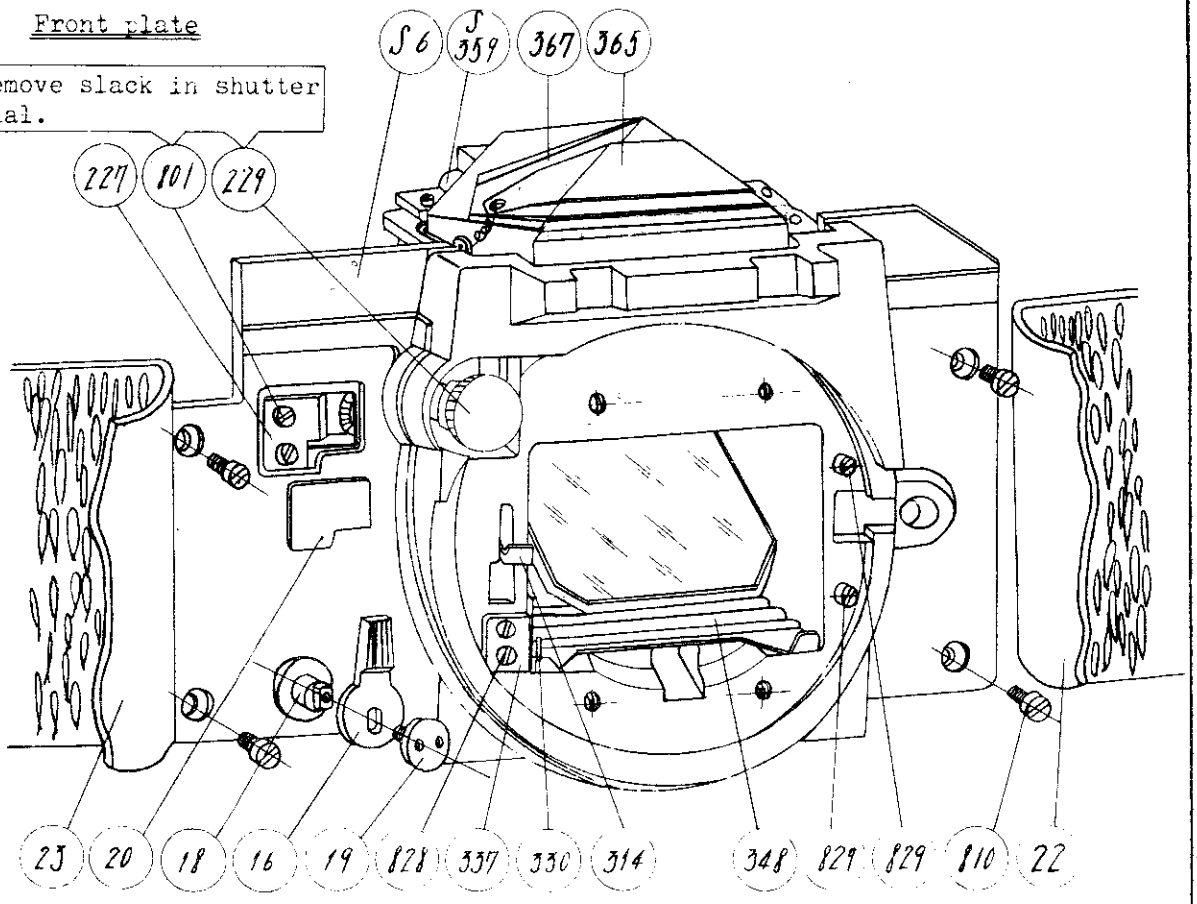
*803 554

Remove these parts after taking off rewind crank and film advance lever; the top cover can be detached. (Take care of the synchronization cord.)



Front plate

Remove slack in shutter dial.

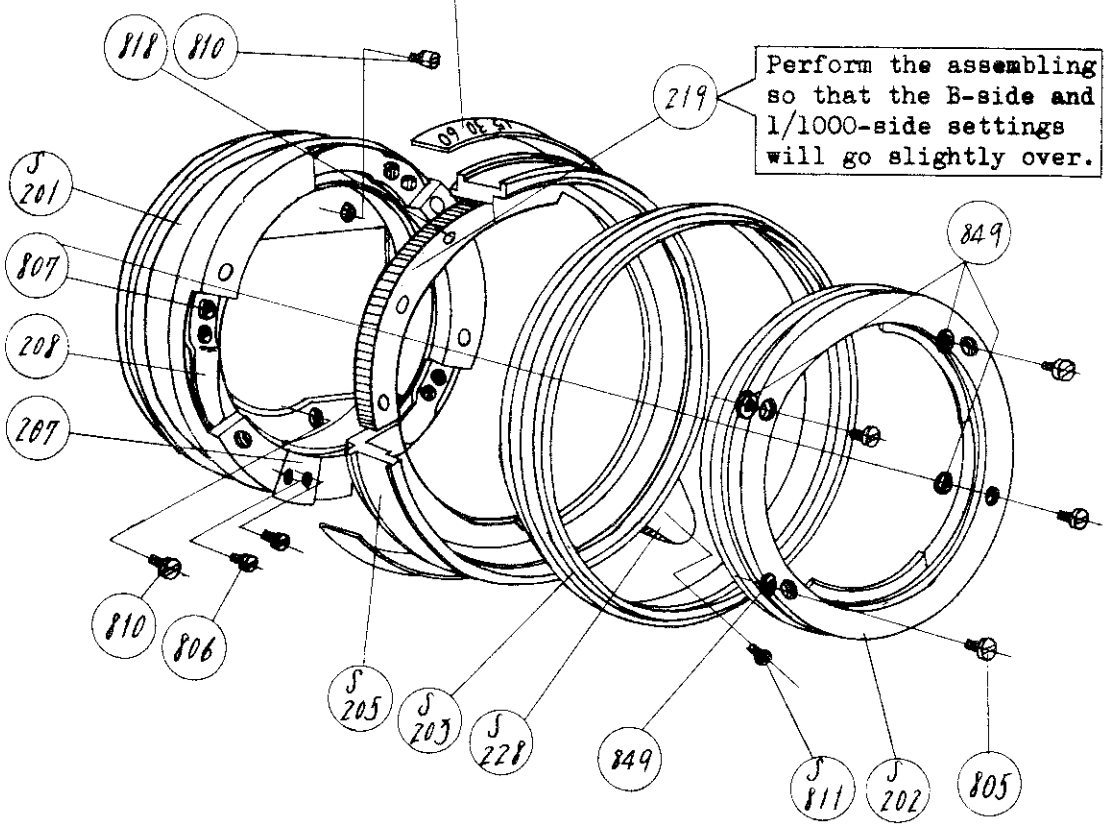


FS - Fig. 2

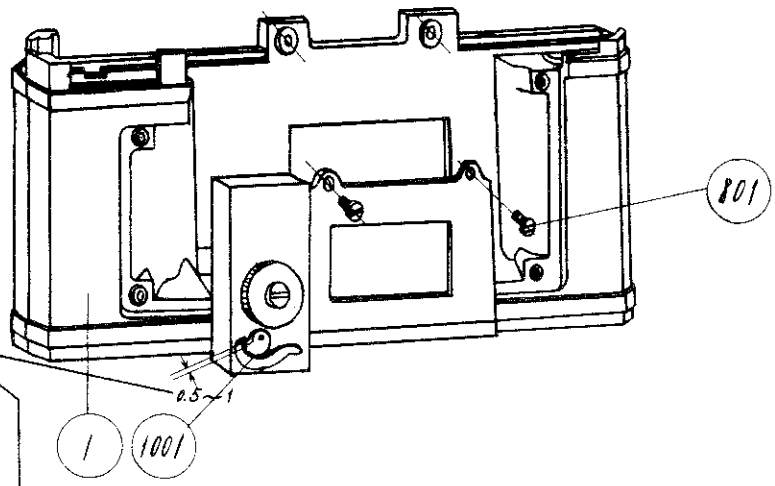
In attaching scale plate, one-figure numerals should come precisely opposite the index. Three-figure numerals need not exactly line up with the index.

Perform the assembling so that the B-side and 1/1000-side settings will go slightly over.

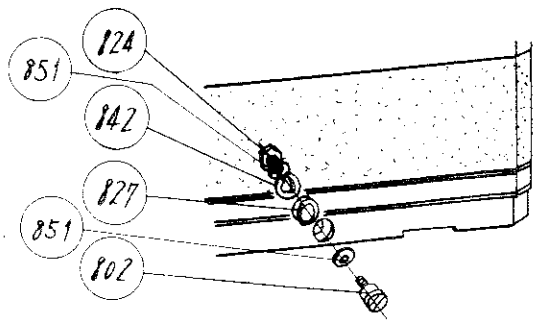
Mount



Shutter attaching base



Make adjustment by changing the engagement of the rack. In this case, be careful with the relation to the double exposure prevention.

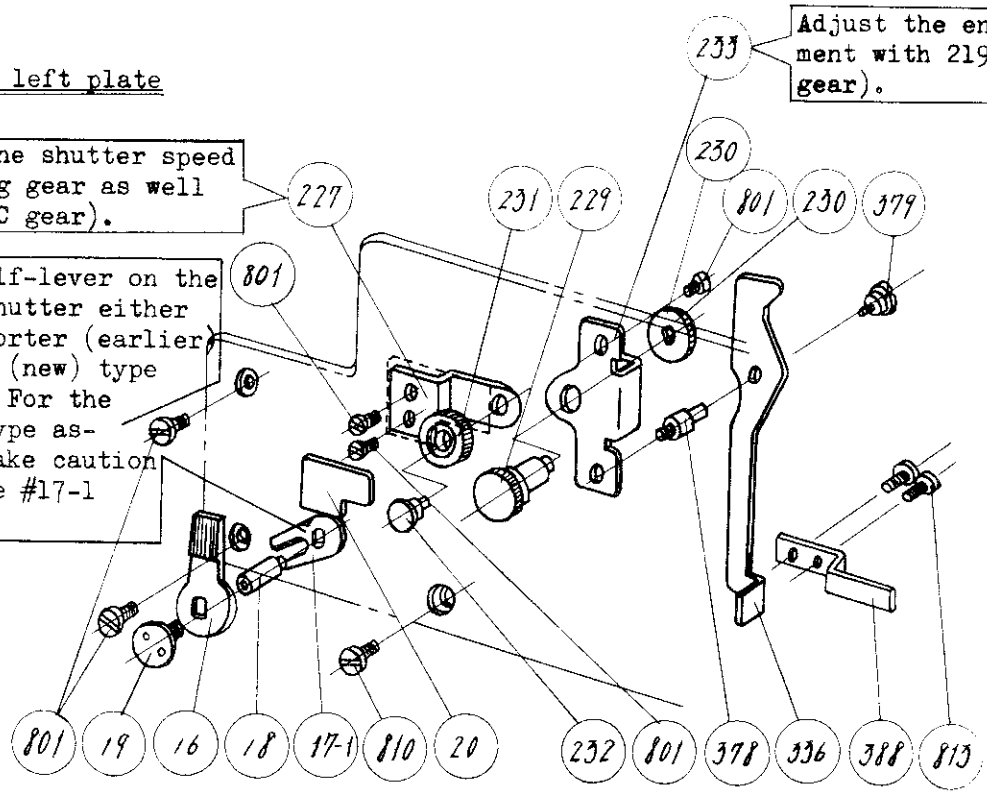


FS - Fig. 3

Front left plate

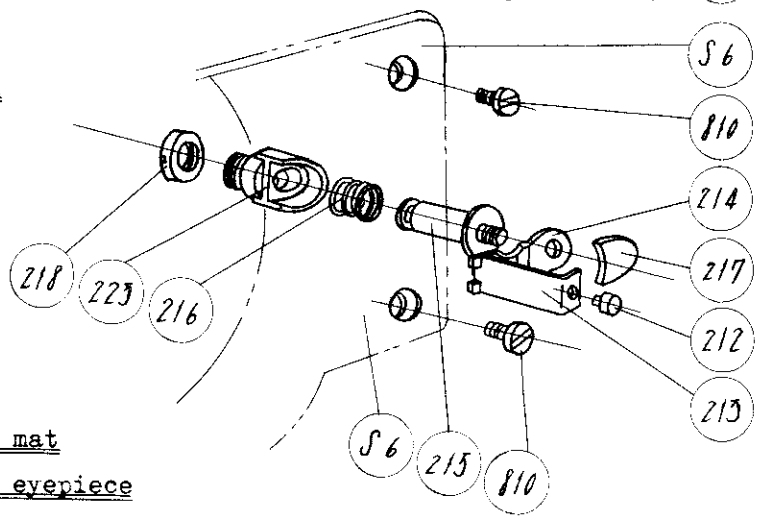
Adjust the shutter speed adjusting gear as well as 230 (C gear).

As the self-lever on the side of shutter either of the shorter (earlier) or longer (new) type is used. For the earlier type assembly, take caution not to use #17-1 but #17.

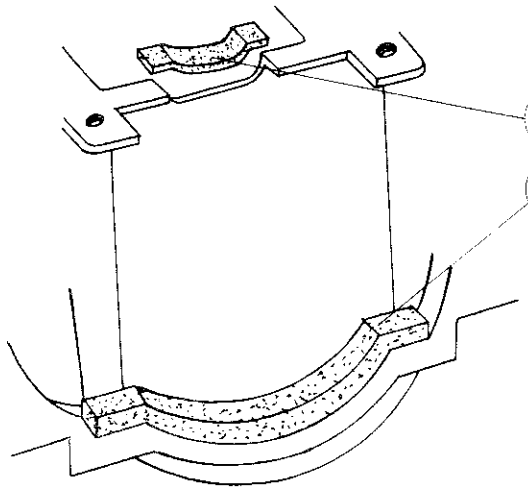


Adjust the engagement with 219 (A gear).

Lens attaching button



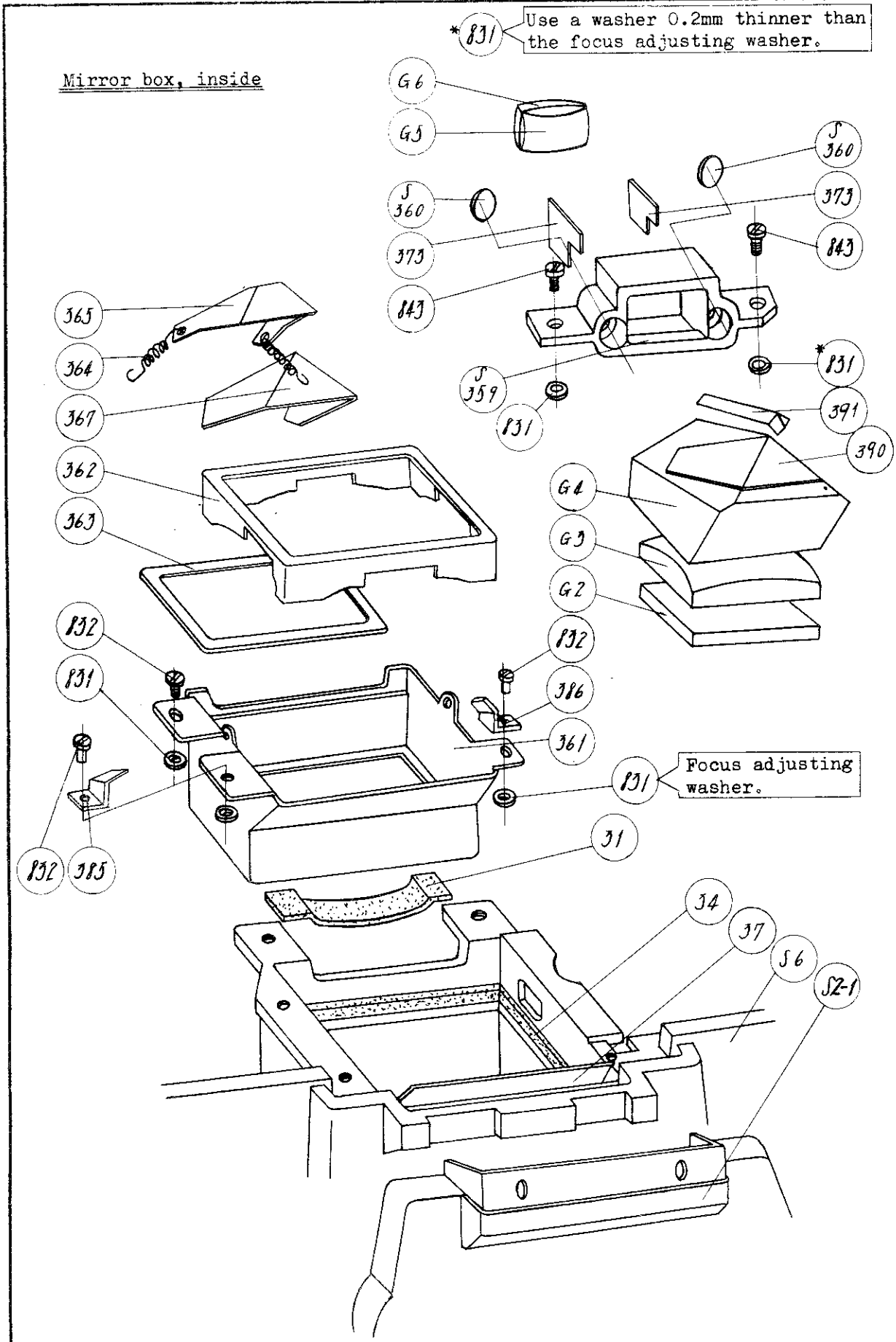
Light leak prevention mat on the front plate of eyepiece



To prevent light leak between camera body and front plate.

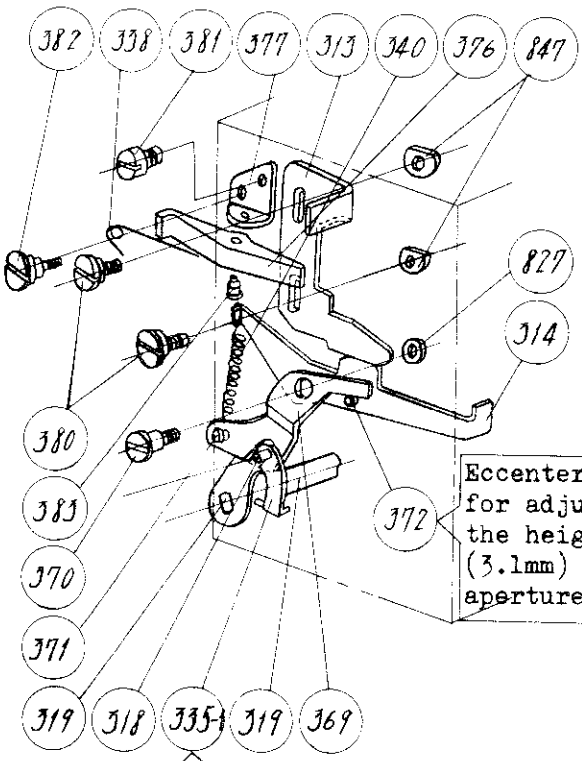
FS - Fig. 4

RA


*831 Use a washer 0.2mm thinner than the focus adjusting washer.
Mirror box, inside
G6
G5
S360
373
843
365
364
367
359
391
390
362
363
G4
G3
G2
832
831
386
361
Focus adjusting washer.
385
31
34
37
S6
S2-1

FS - Fig. 5

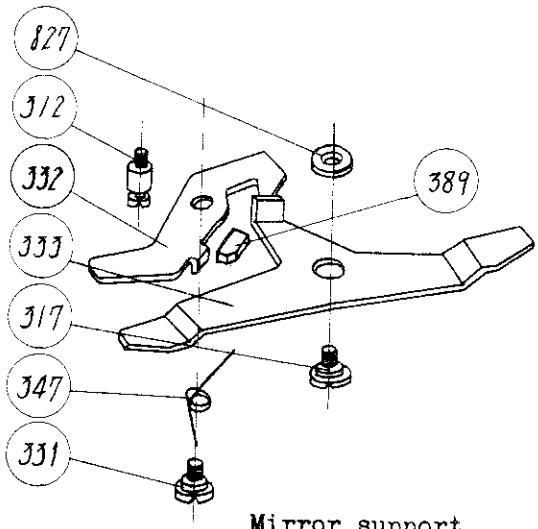
Mirror box, left



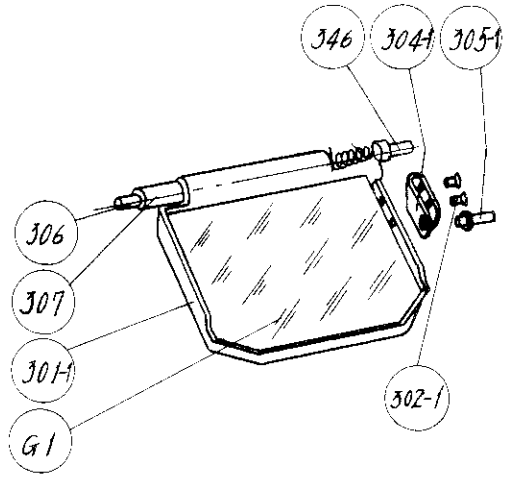
Eccenter pin for adjusting the height (3.1mm) of aperture lever.

Change bending for adjustment of time-lags of shutter release, mirror-up and aperture.

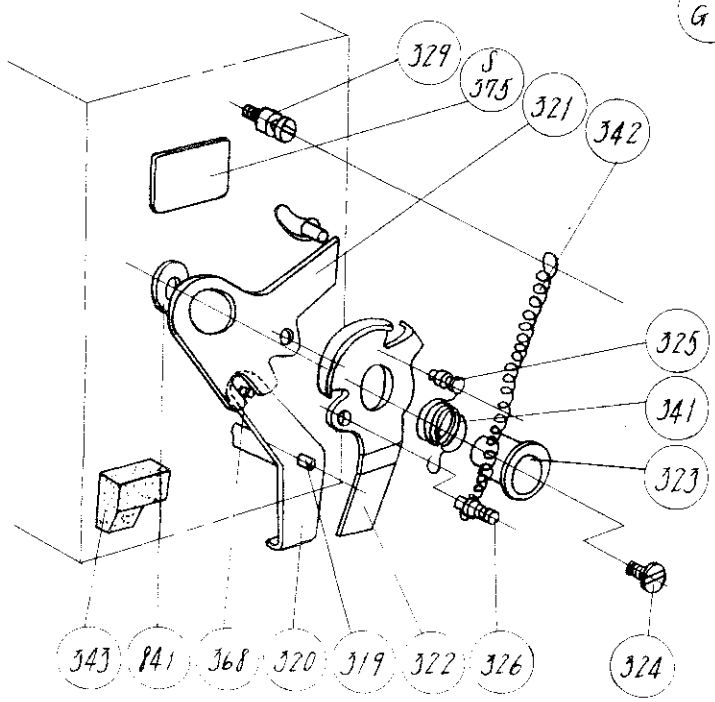
Mirror box, bottom



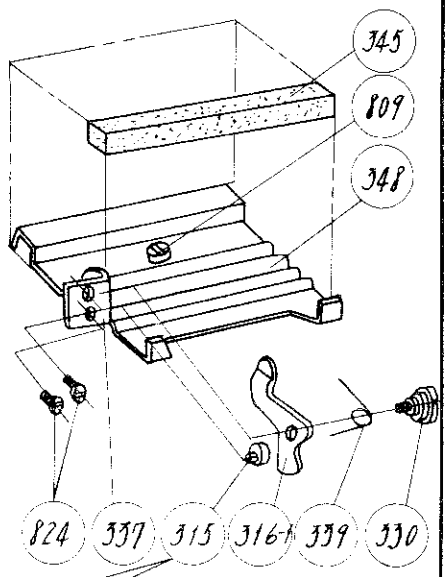
Mirror support



Mirror box, right



Mirror box, inside



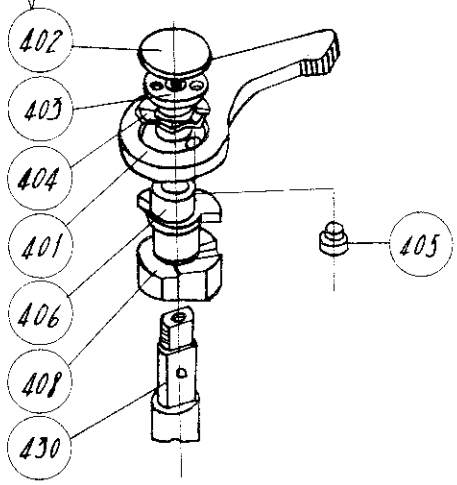
Mirror angle (45°) adjusting eccenter pin. (Cement with lac after positioning.)

FS - Fig. 6

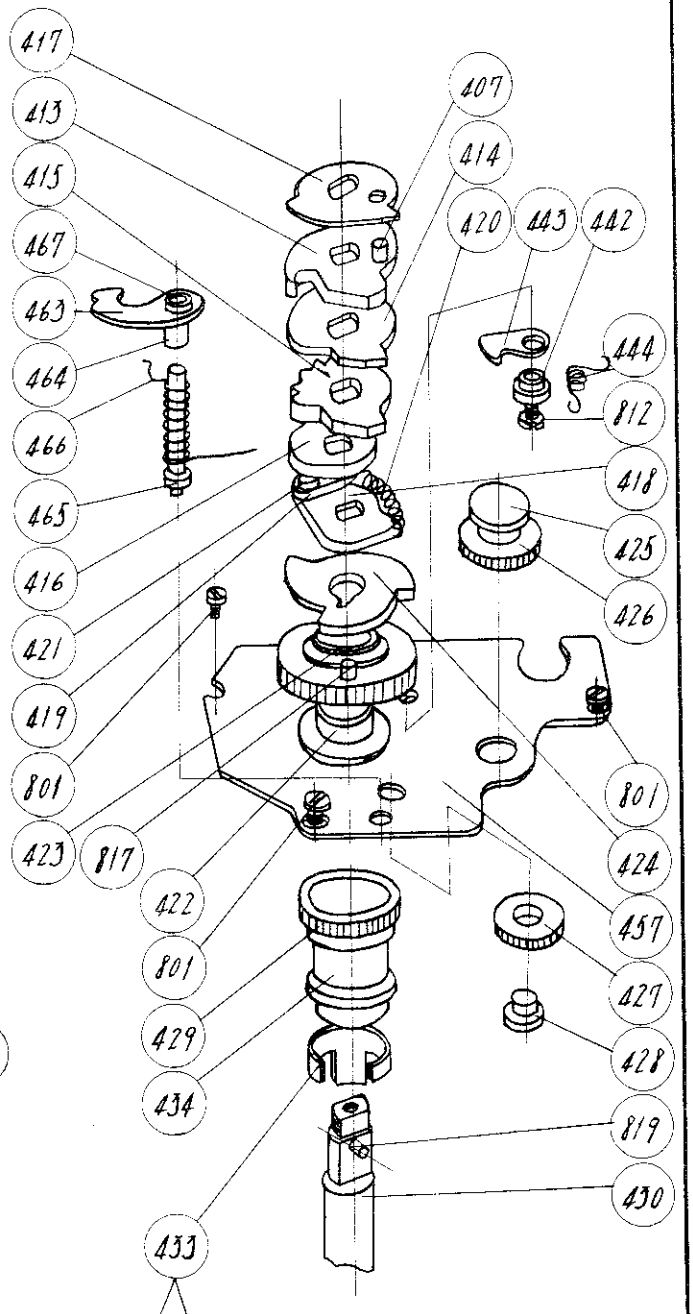
RA

Take-up lever

For detaching, loosen it using a piece of rubber.

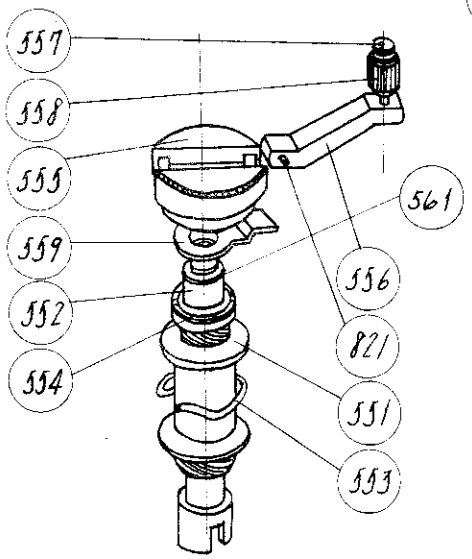


Take-up shaft and safety device



Change bending to adjust the friction of spool.

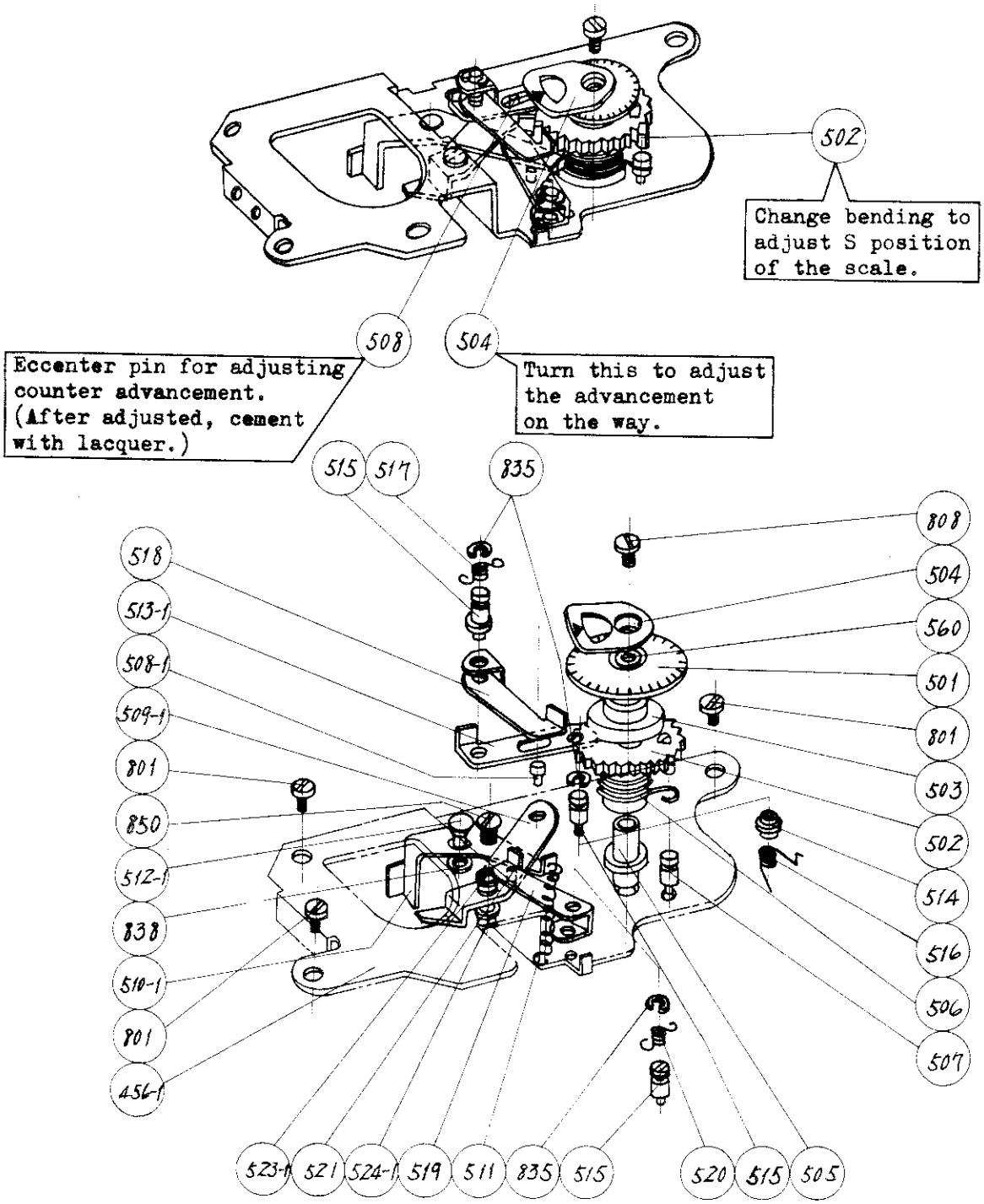
Rewind lever



FS - Fig. 7

Film counter

Adjustment proceeds as follows;
Advance the scale to 10 - 20 after being assembled. In this position, be sure of engagement of stopper pawl #519 to the ratchet. Set index plate #504 to the scale. Then, adjust the advancement by means of eccenter pin #508. Open the camera back. Return the counter to zero. In this position, if any displacement is found between S and the index, make adjustment by bending the stopper part of the ratchet #502.

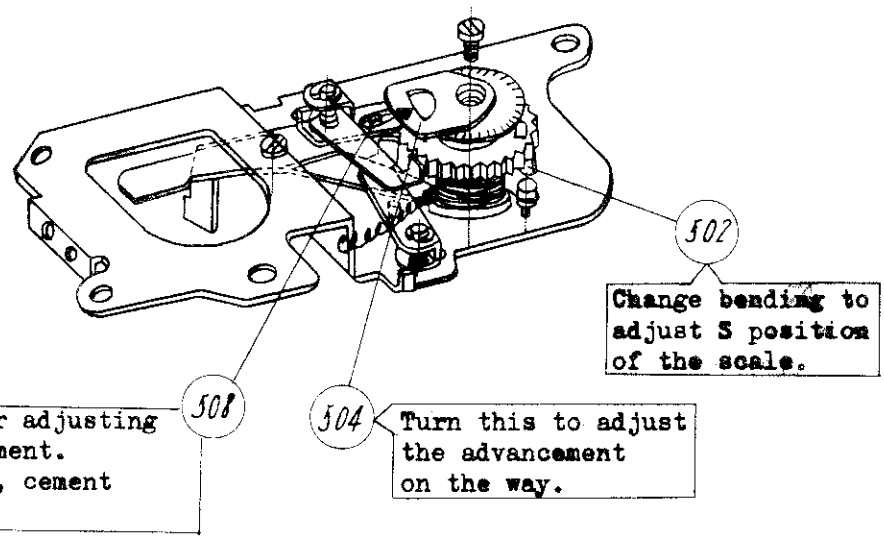


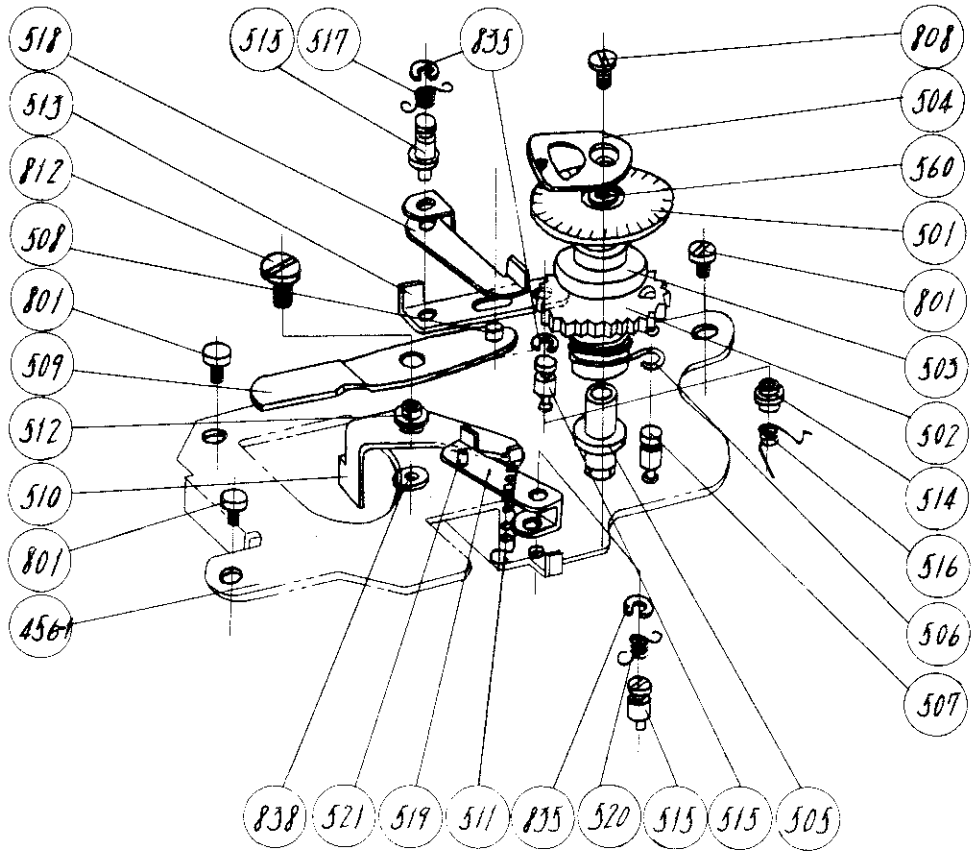
FS
FT - Fig. 8

N.K.K. J-434 A4 1× 2000 H

Film counter

Adjustment proceeds as follows;
Advance the scale to 10 - 20 after being assembled. In this position, be sure of engagement of stopper pawl #519 to the ratchet. Set index plate #504 to the scale. Then, adjust the advancement by means of eccenter pin #508. Open the camera back. Return the counter to Zero. In this position, if any displacement is found between S and the index, make adjustment by bending the stopper part of the ratchet #502.

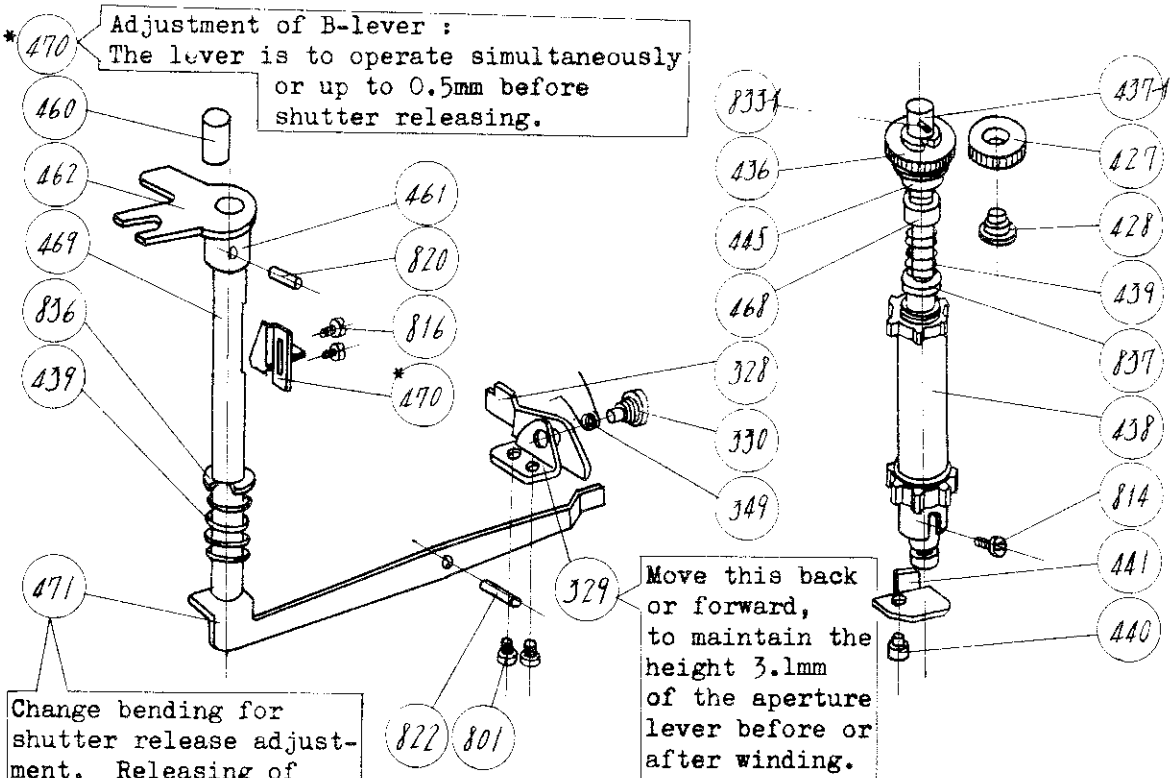

502
Change bending to adjust S position of the scale.
508
Eccenter pin for adjusting counter advancement. (After adjusted, cement with lacquer.)
504
Turn this to adjust the advancement on the way.



FS
FT - Fig. 8

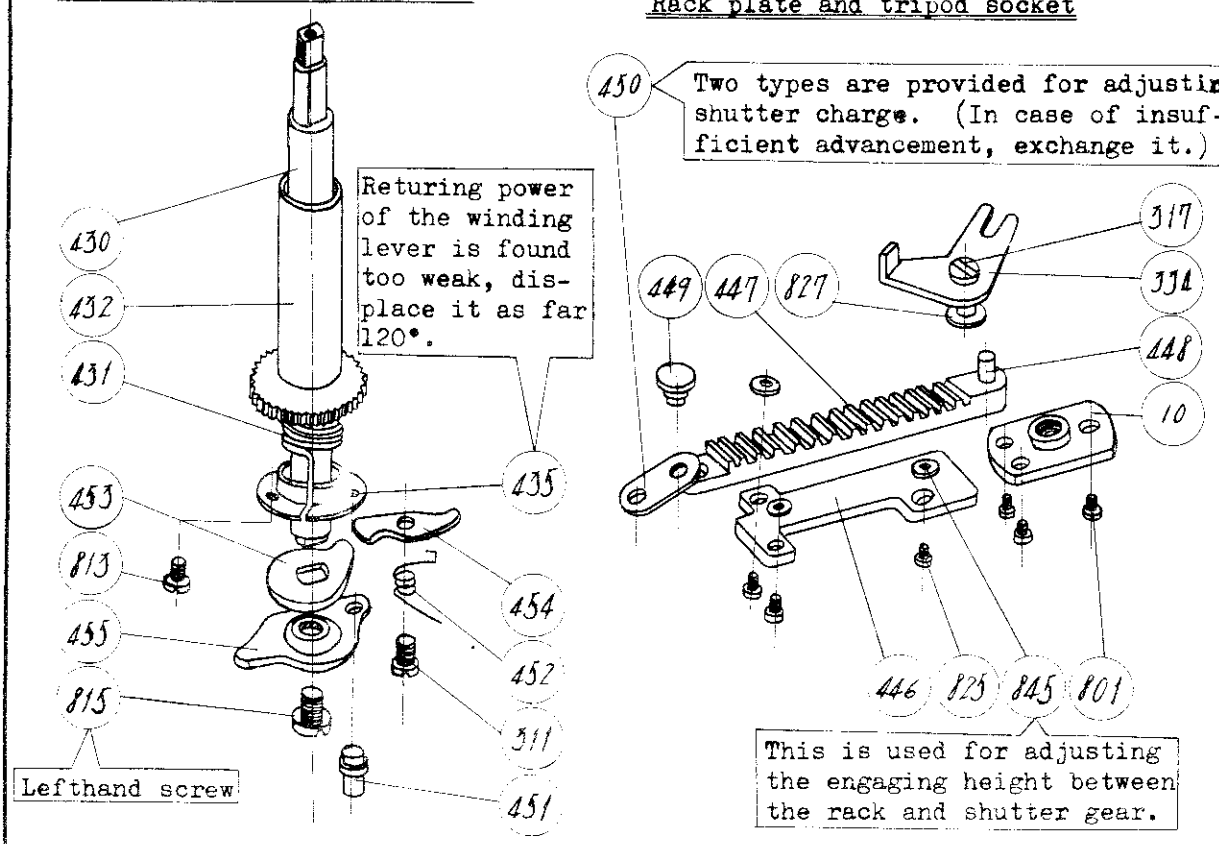
Push button shaft and sec-saw lever

Sprocket shaft



Lower part of winding shaft

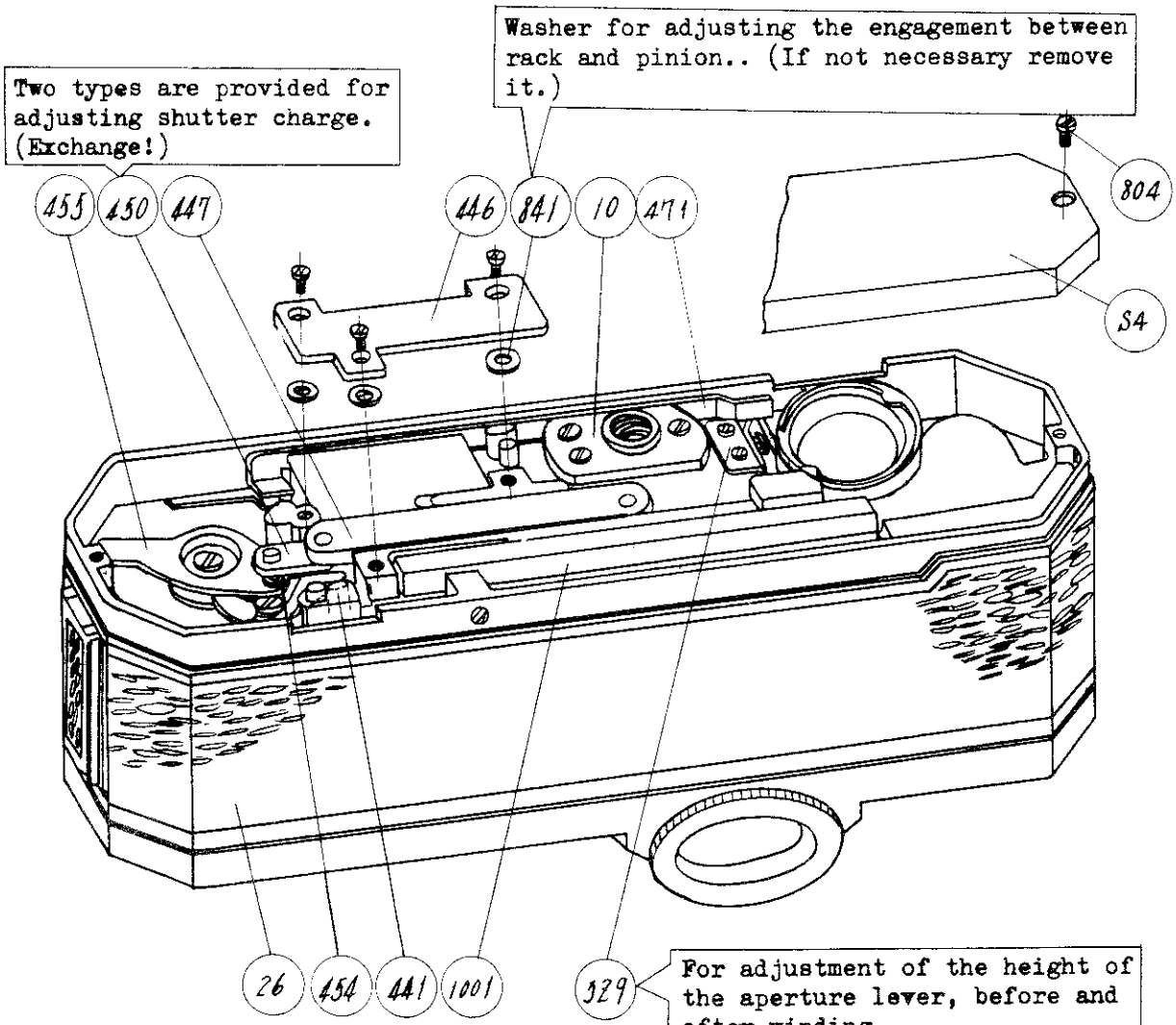
Rack plate and tripod socket



FS - Fig. 9
FT

RA

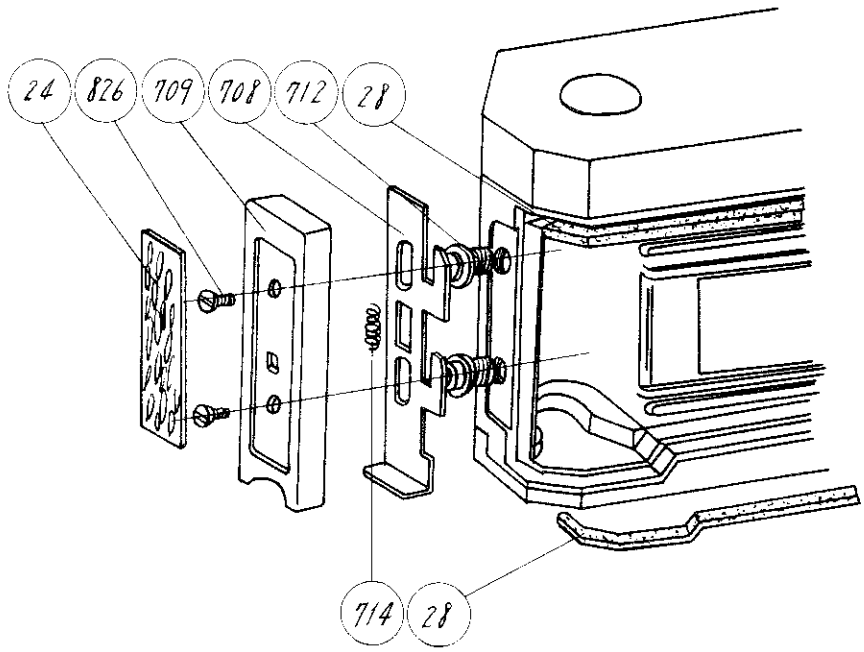
Camera bottom



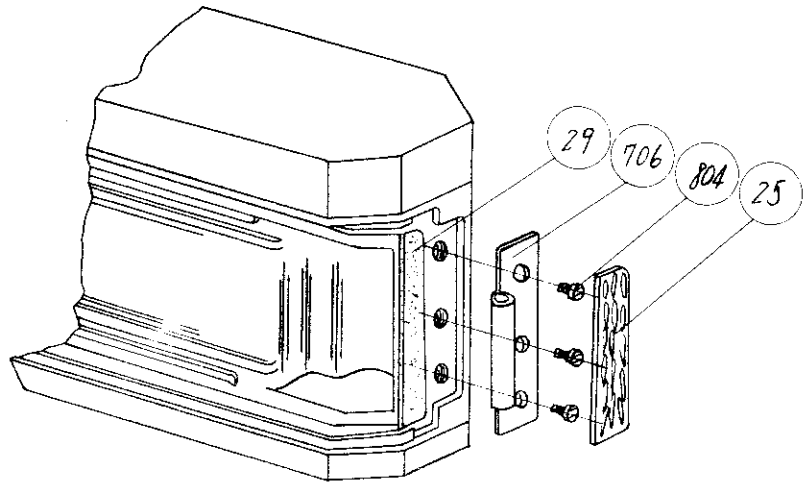
FS - Fig. 10

RA

Latch



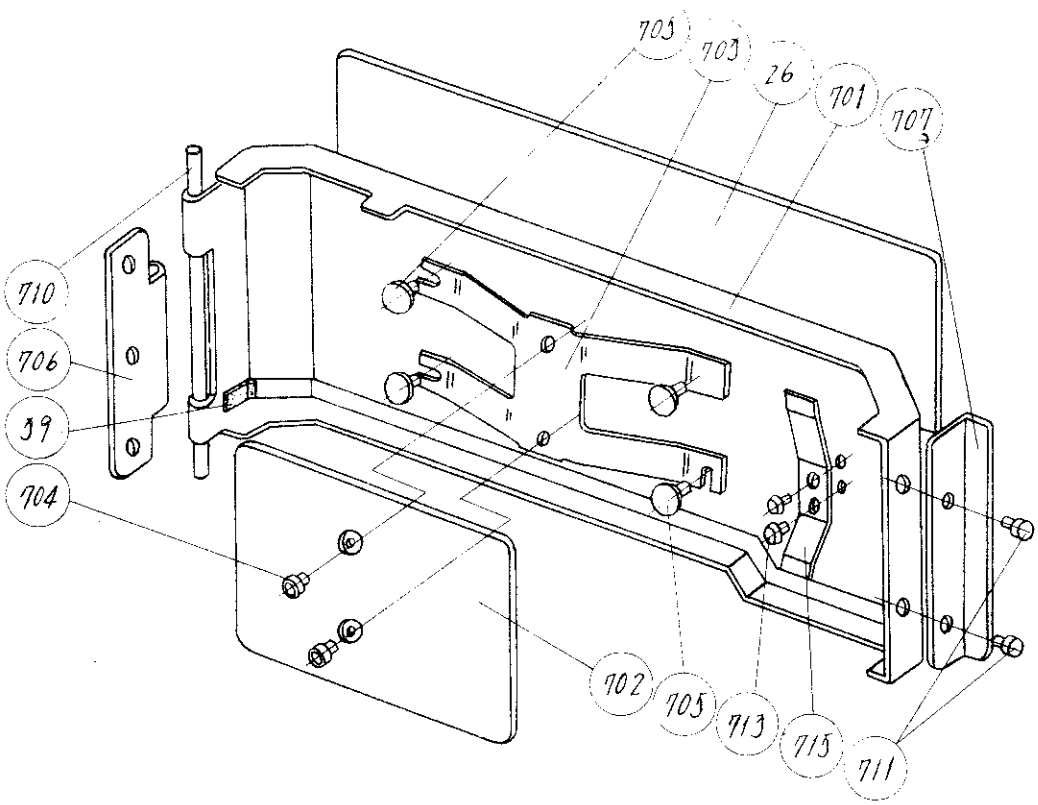
Hinge



FS
FT - Fig. 11

RA

Back cover, hinge

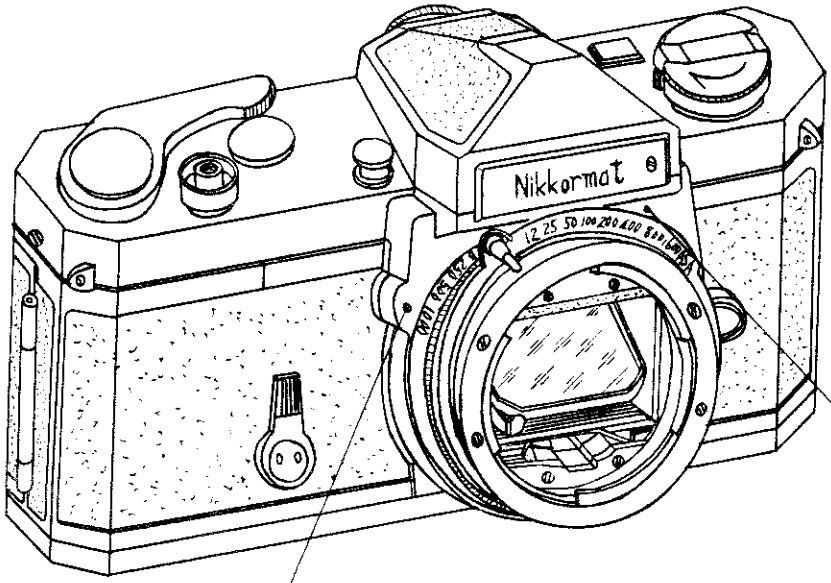


PC
PT - Fig. 12

RA

External view

Nikkormat FT

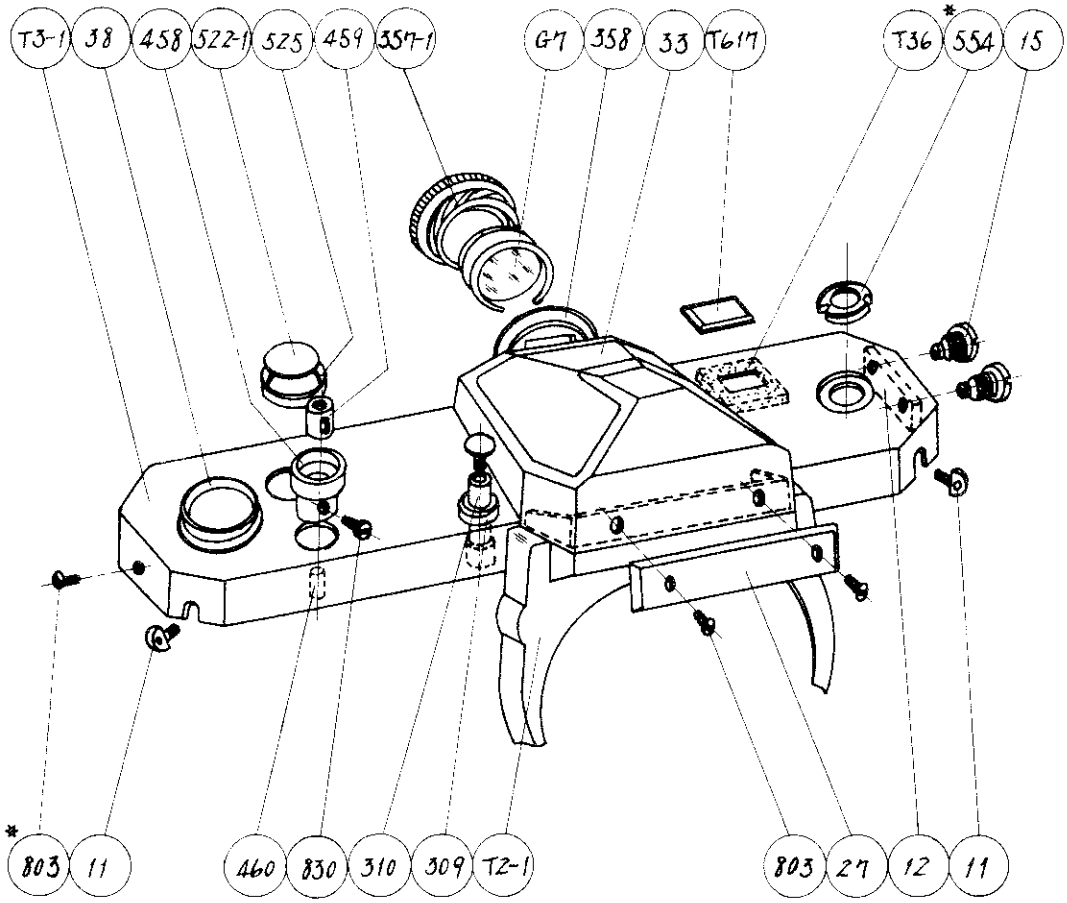


FT - Fig. 1

Camera top cover

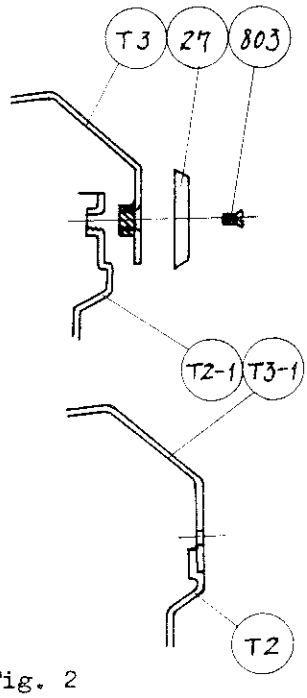
*803 554

Remove these parts after taking off rewind crank and film advance lever; the top cover can be detached. (Take care of the synchronization cord.)



Note: In assembling the front plate to the top cover, if their earlier and new type are used together, take the following measures:

a) Assembling T3 of earlier to T2-1 of new type
After filing off the threaded projection on the back side of T3, attach T3 under the part #27 to T3-1 of new type.



b) Assembling T3-1 of new to T2-1 of earlier type
Since T2 of earlier type has no thread but only a hole, the assembling will be impossible. Therefore, both parts should at the same time, be of earlier or new type.

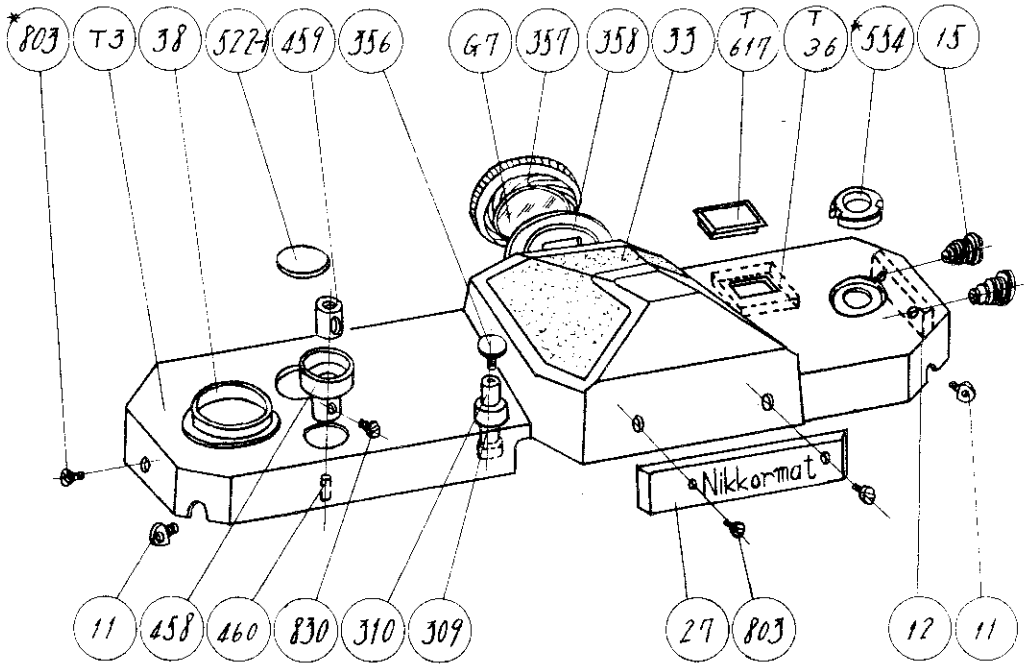
FT - Fig. 2

N.K.K. J-434 A4 1-X 2000 N

Camera top cover

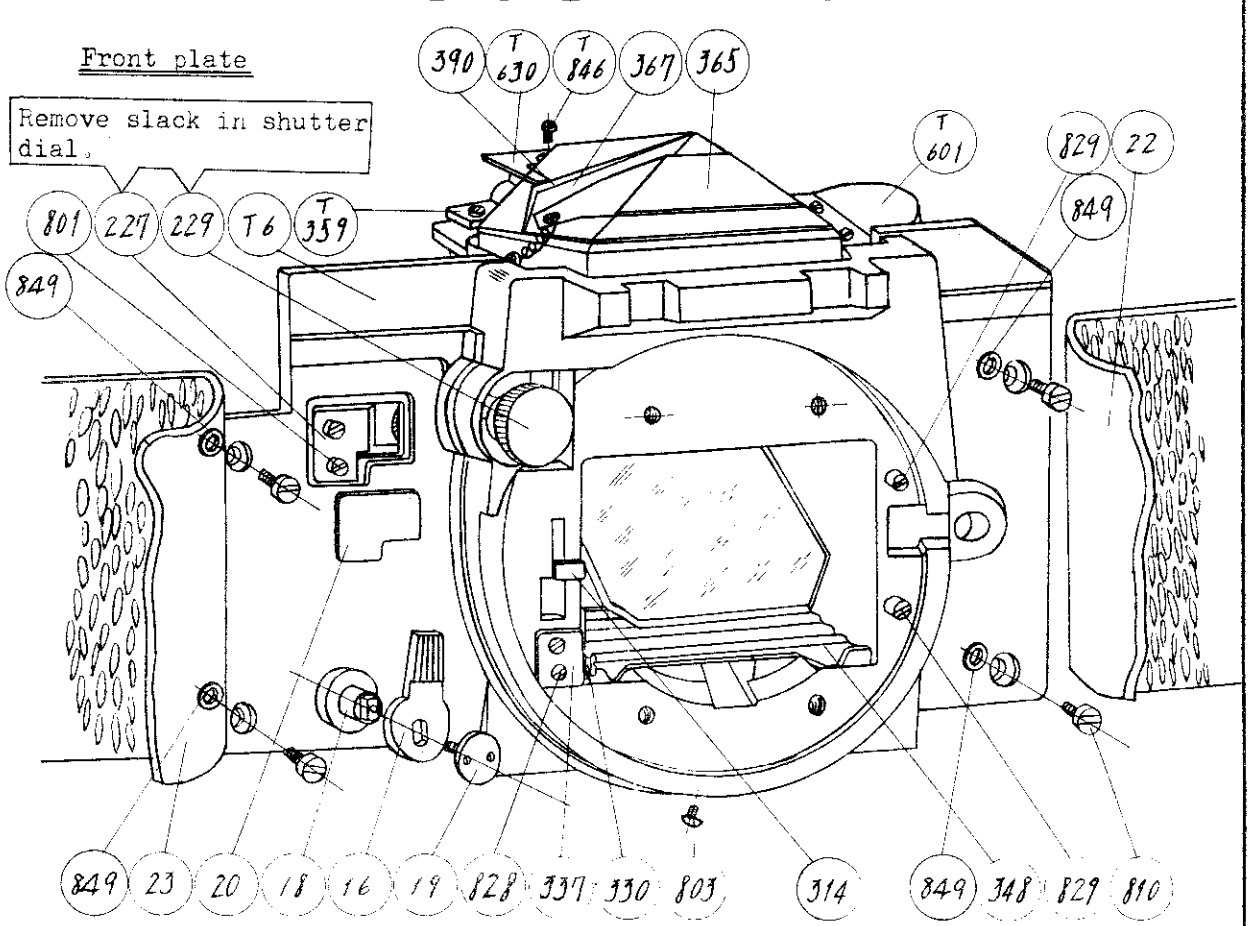
*803 554

Remove these parts after taking off rewind crank and film advance lever; the top cover can be detached. (Take care of the synchronization cord.)



Front plate

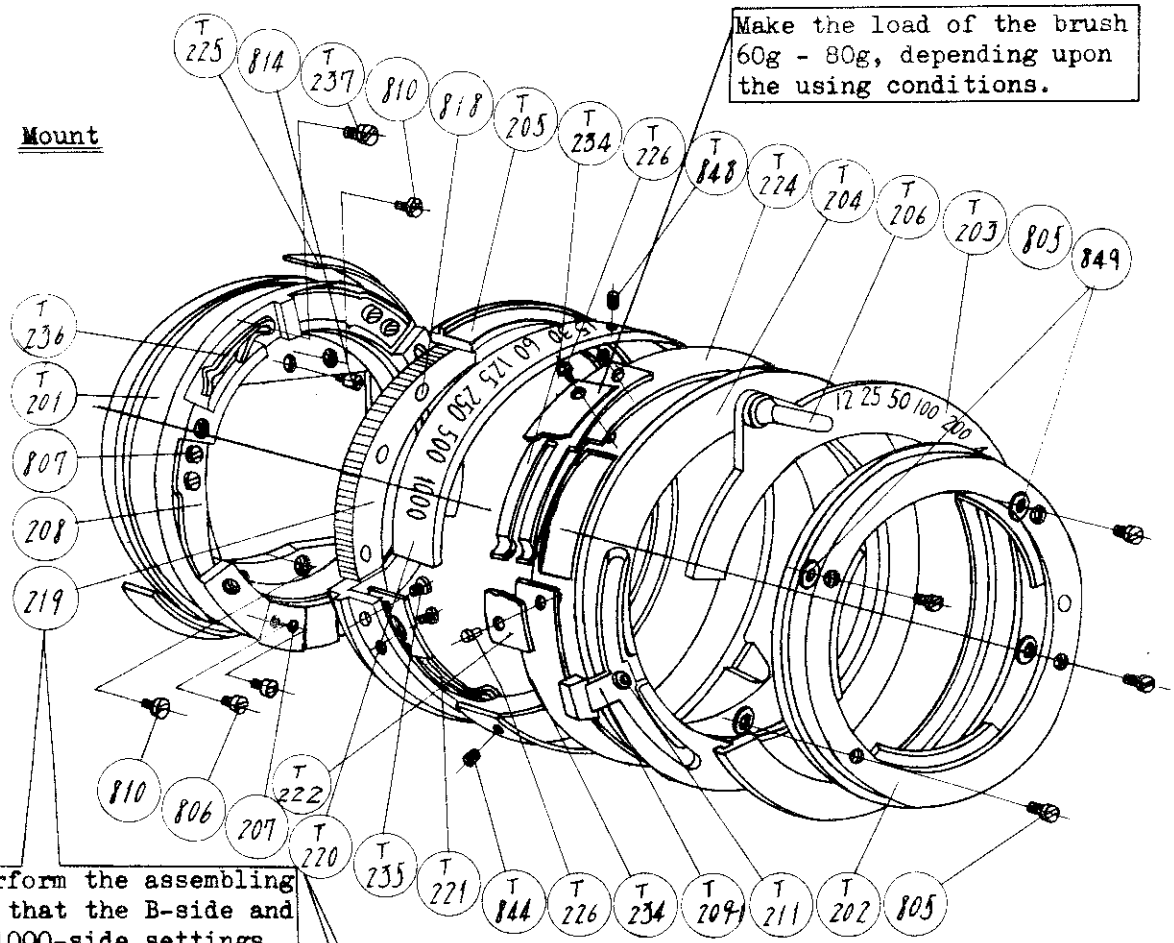
Remove slack in shutter dial.



FT - Fig. 2

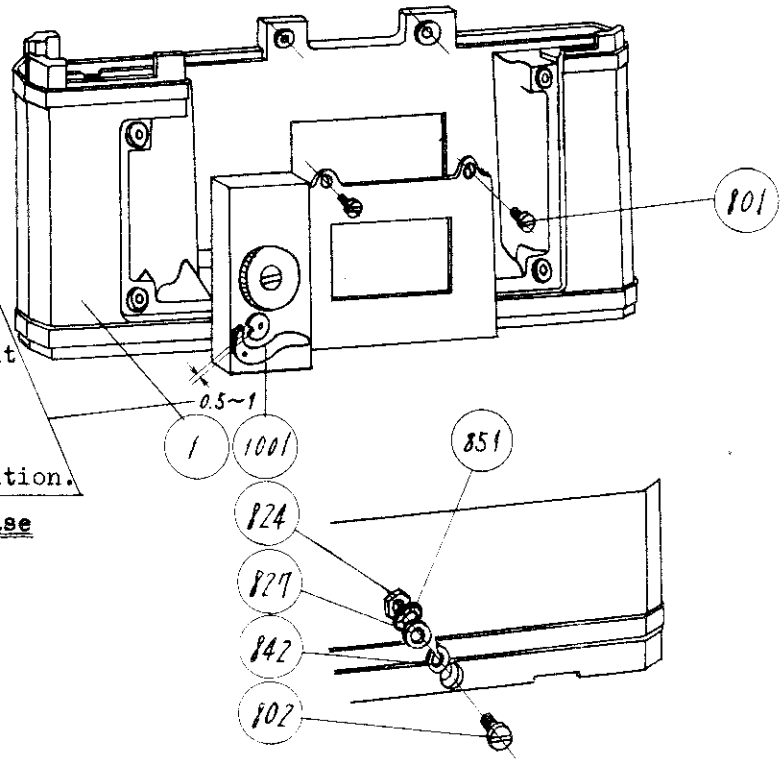
Make the load of the brush 60g - 80g, depending upon the using conditions.

Mount



Perform the assembling so that the B-side and 1/1000-side settings will go slightly over.

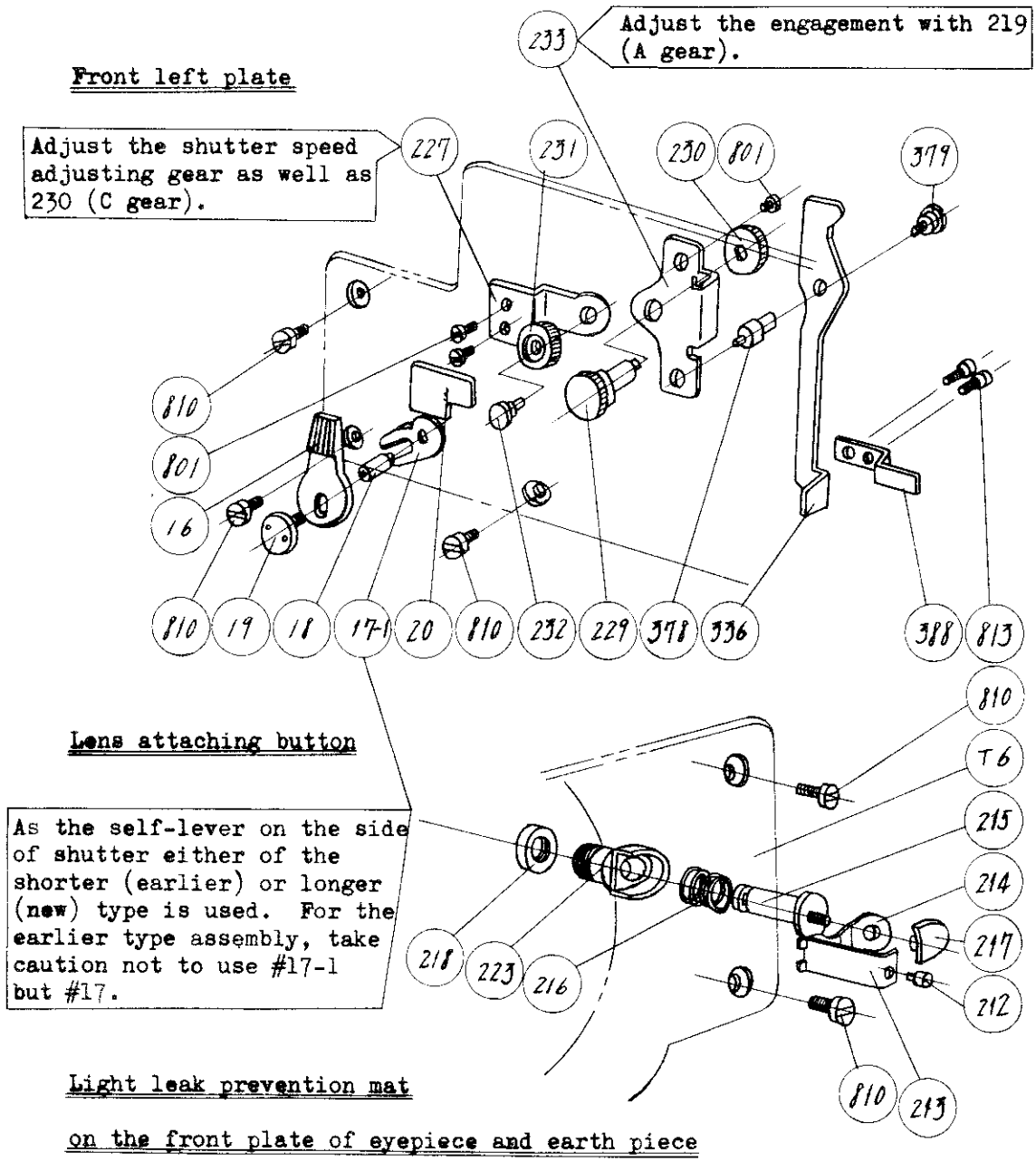
In attaching scale plate, one-figure numerals should come precisely opposite the index. Three-figure numerals need not exactly line up with the index.



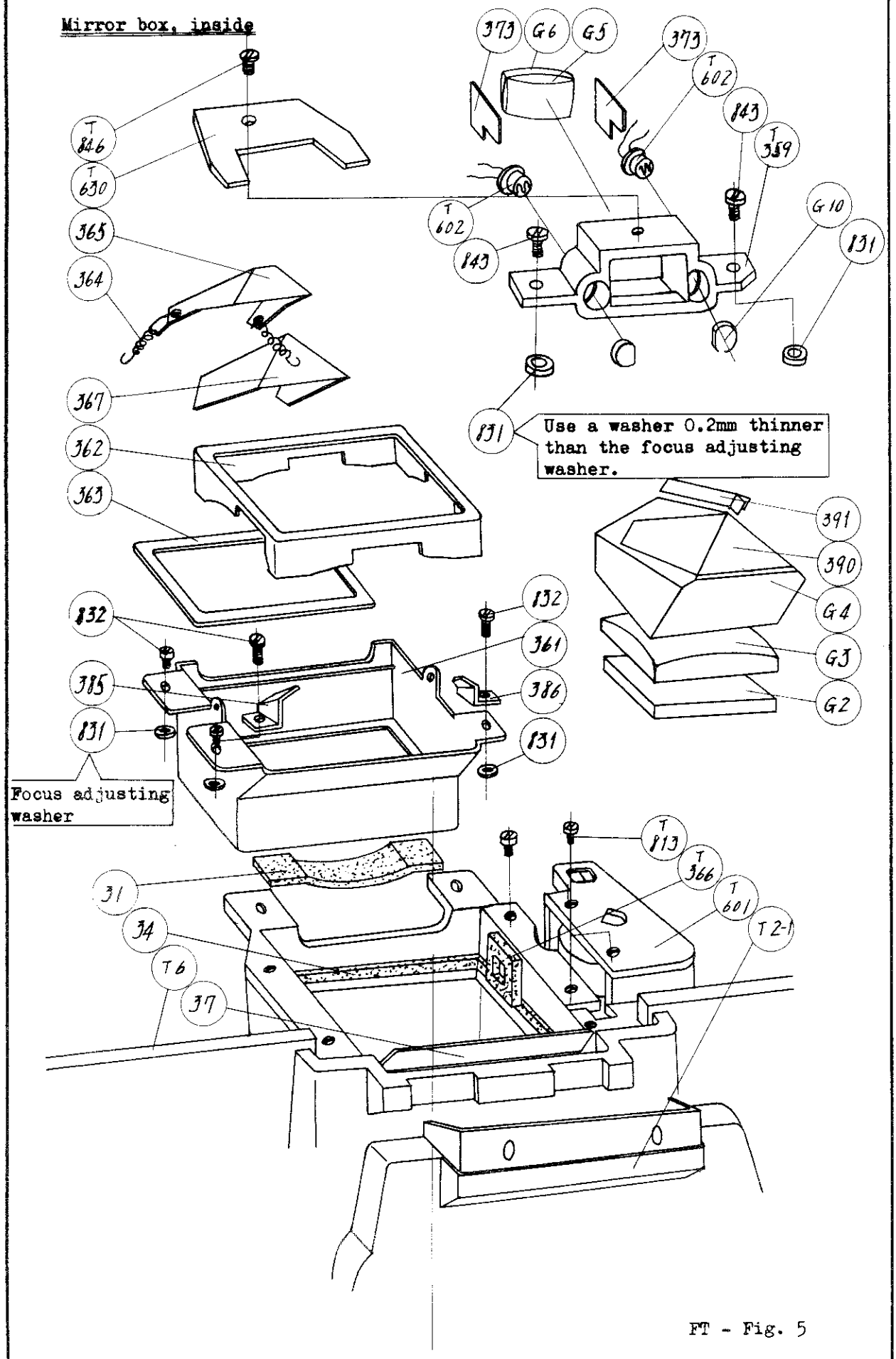
Make adjustment by changing the engagement of the rack. In this case, be careful with the relation to the double exposure prevention.

Shutter attaching base

FT - Fig. 3


Front left plate
Adjust the engagement with 219 (A gear).
Adjust the shutter speed adjusting gear as well as 230 (C gear).
233
227
231
230
801
379
810
801
16
810
19
18
17-1
20
810
232
229
378
336
388
813
Lens attaching button
As the self-lever on the side of shutter either of the shorter (earlier) or longer (new) type is used. For the earlier type assembly, take caution not to use #17-1 but #17.
810
T6
215
214
217
212
218
223
216
810
213
Light leak prevention mat
on the front plate of eyepiece and earth piece
31
T21
35
T 809
T 840
T32
T 618
1

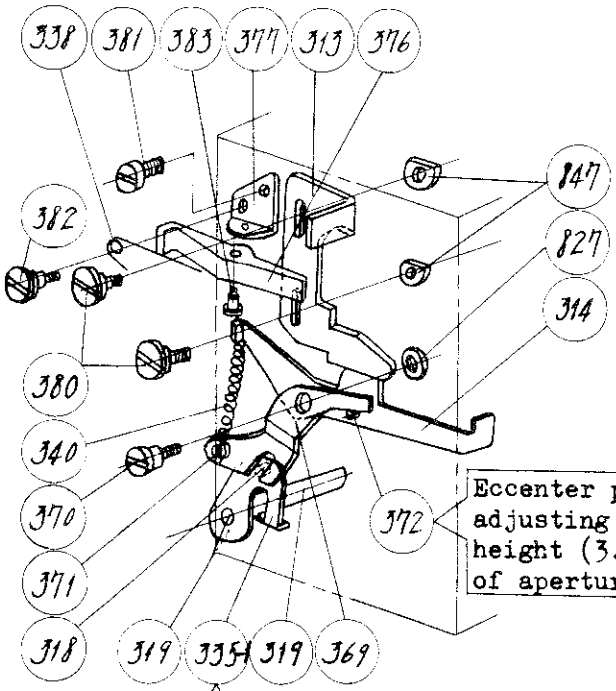
FT - Fig. 4


Mirror box, inside
373
G6
G5
373
T 602
843
T 359
T 846
T 630
T 602
843
G10
131
365
364
367
362
363
131
Use a washer 0.2mm thinner than the focus adjusting washer.
391
390
G4
G3
G2
832
132
361
386
385
831
831
Focus adjusting washer
T 813
T 366
T 601
T 2-1
31
34
T 6
37

FT - Fig. 5

RA

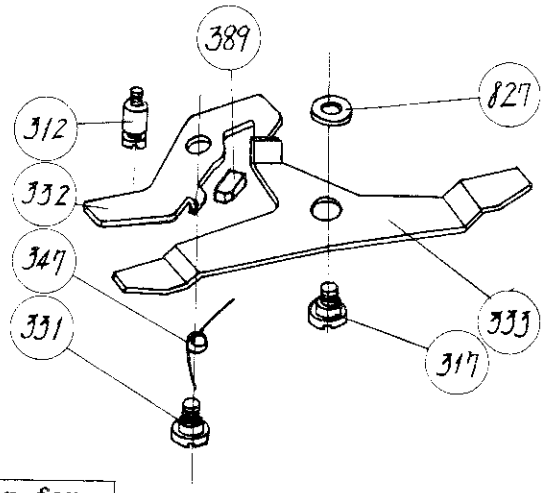
Mirror box, left



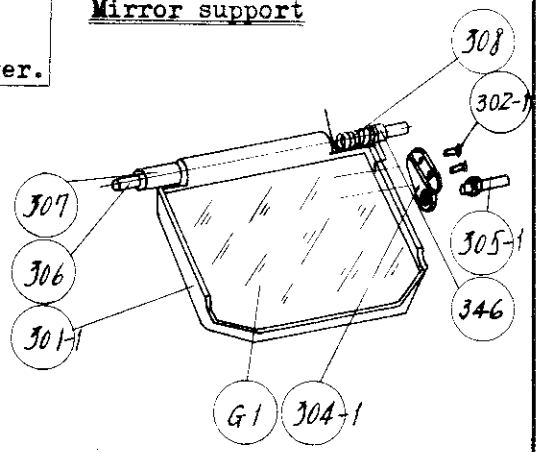
Eccenter pin for adjusting the height (3.1mm) of aperture lever.

Change bending for adjustment of time-lags of shutter release, mirror-up and aperture.

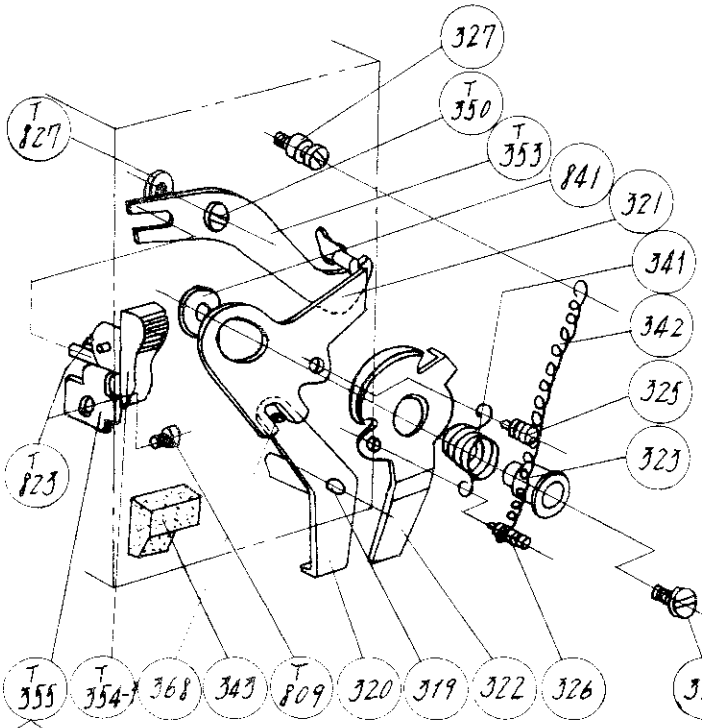
Mirror box, bottom



Mirror support

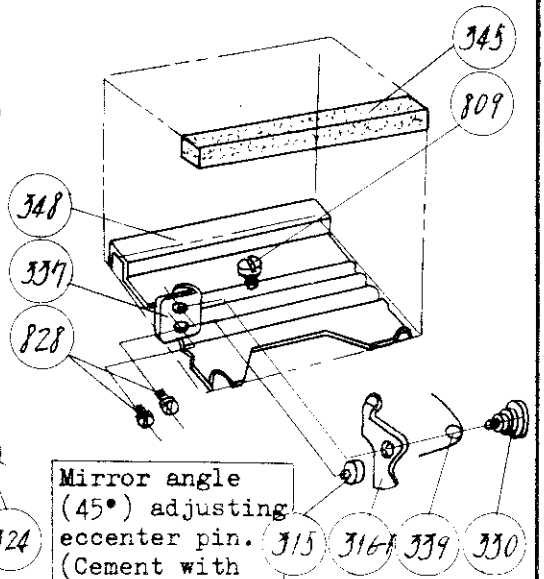


Mirror box, right



Attach this in a position properly shifted so that no opening appears when the mirror is in up-position.

Mirror box, inside

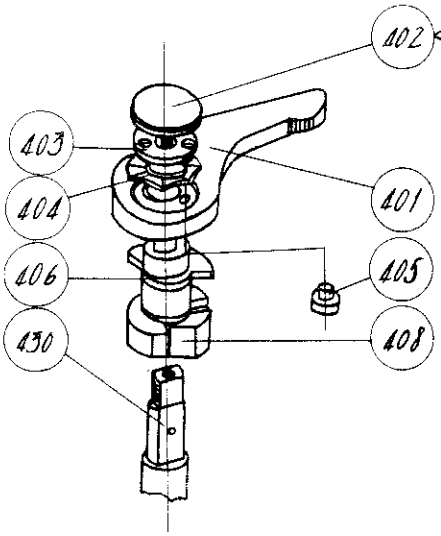


Mirror angle (45°) adjusting eccenter pin. (Cement with lac after positioning.)

FT - Fig. 6

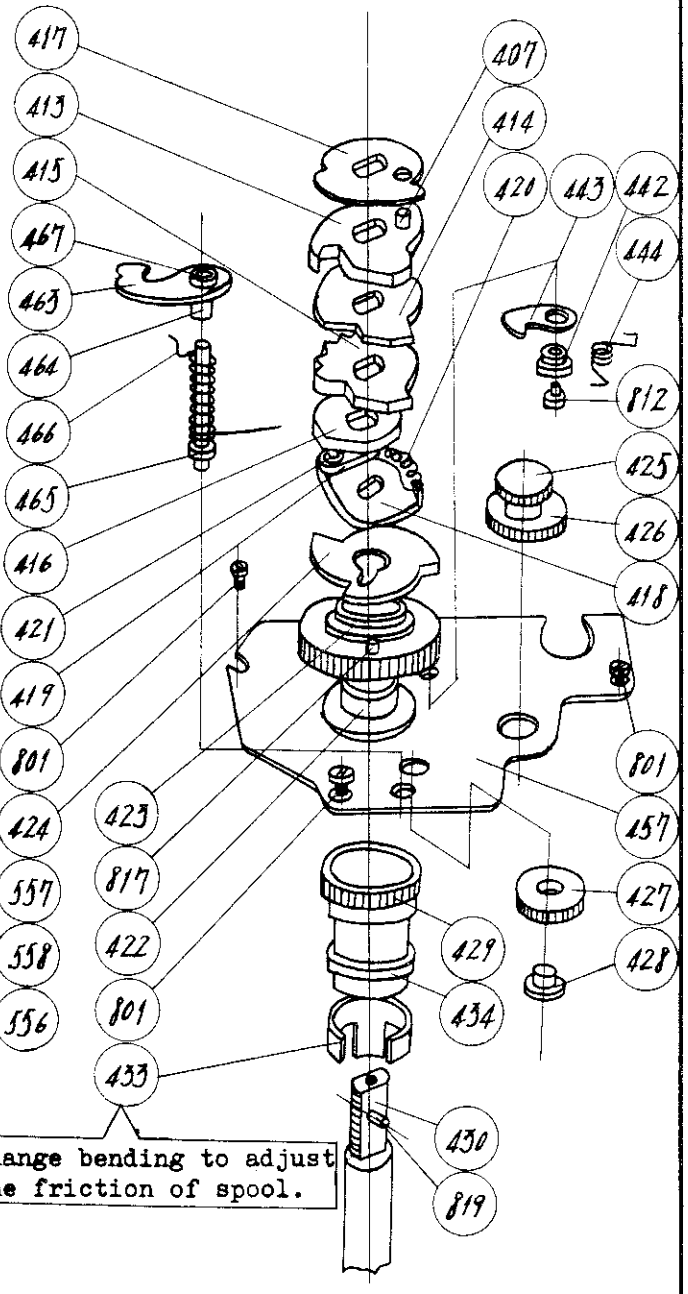
RA

Take-up lever

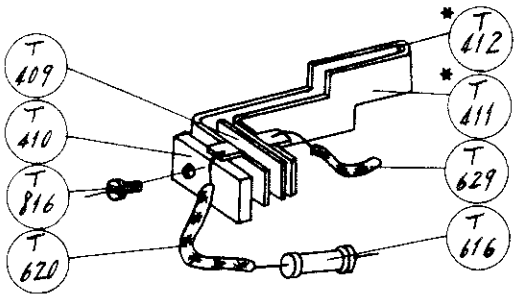


For detaching, loosen it using a piece of rubber.

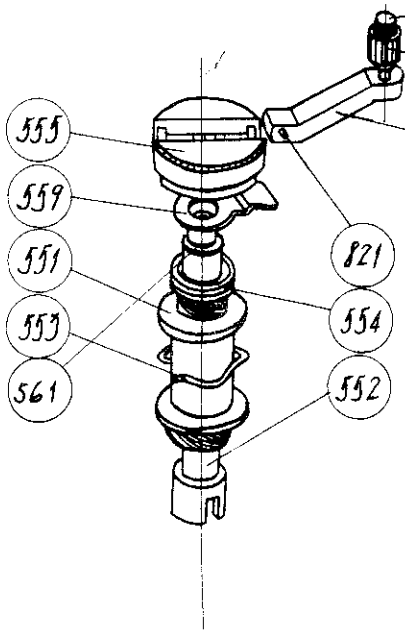
Take-up shaft and safety device



Exposure counter switch



Rewind lever



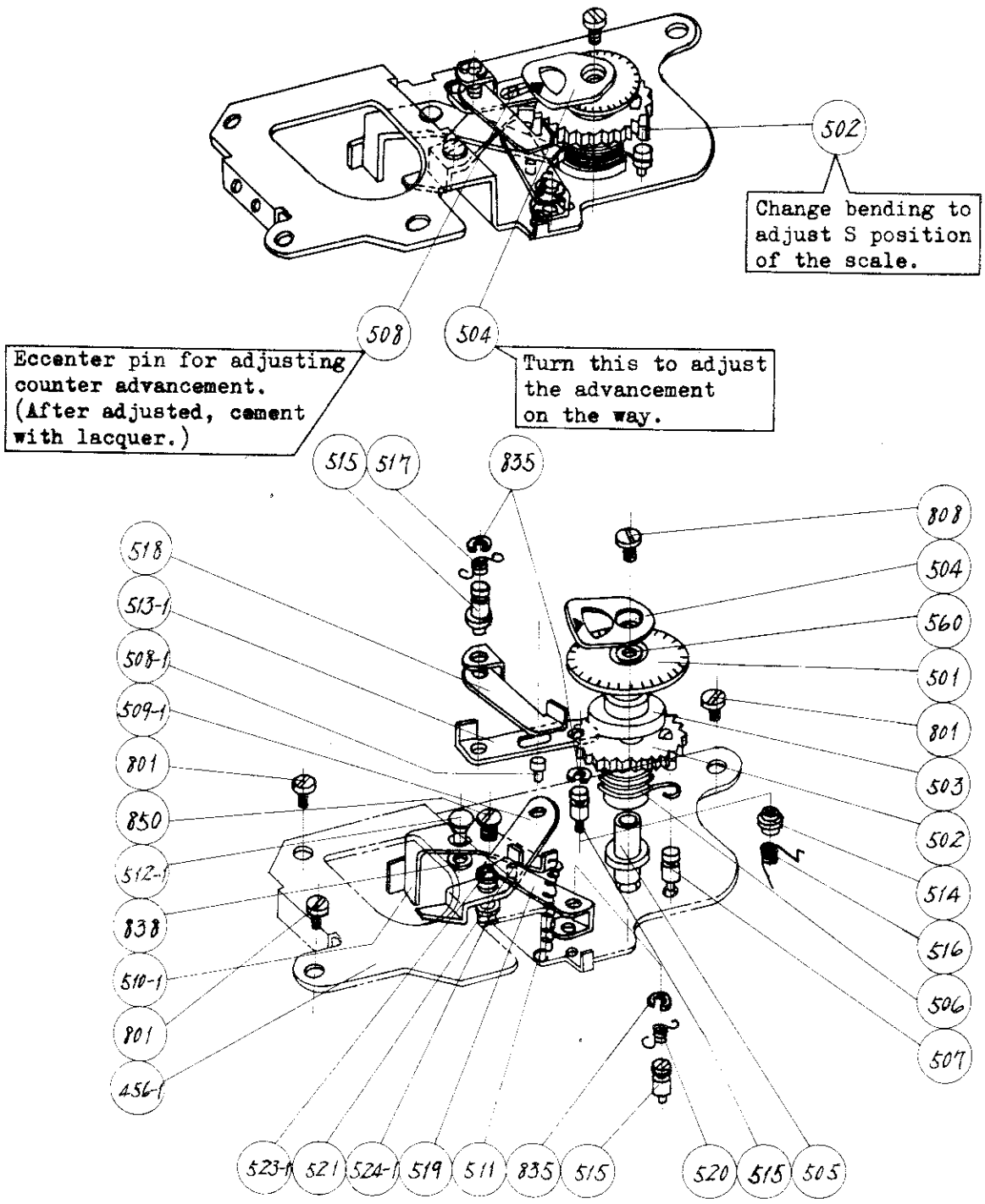
Change bending to adjust the friction of spool.

*T411 T412 The on-off-switch position of the lever in respect to the red dot on the top cover is adjusted by bending these pieces.

FT - Fig. 7

Film counter

Adjustment proceeds as follows;
Advance the scale to 10 - 20 after being assembled. In this position, be sure of engagement of stopper pawl #519 to the ratchet. Set index plate #504 to the scale. Then, adjust the advancement by means of eccenter pin #508. Open the camera back. Return the counter to zero. In this position, if any displacement is found between S and the index, make adjustment by bending the stopper part of the ratchet #502.

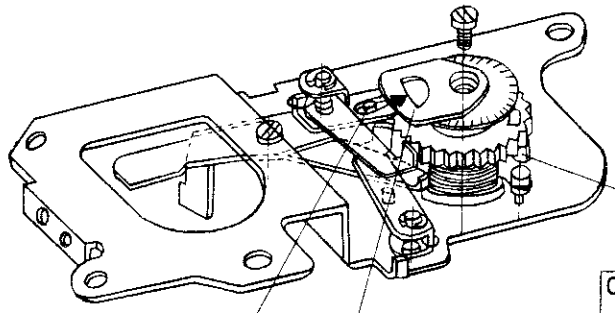


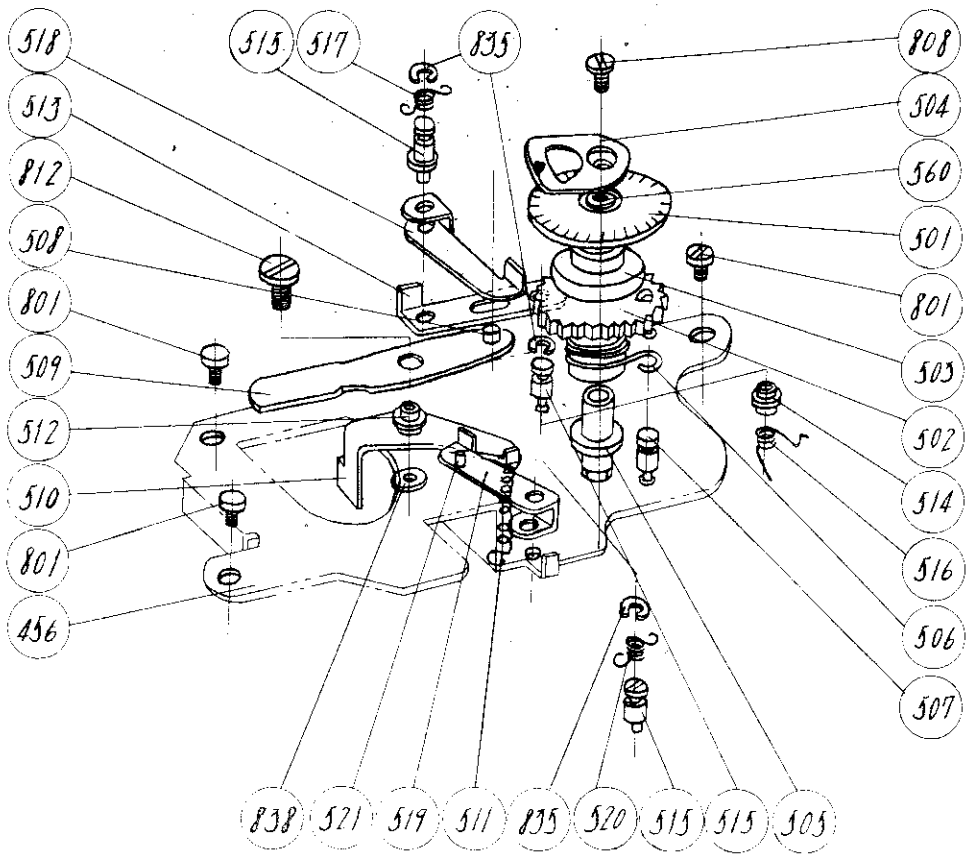
FS
FT - Fig. 8

N.K.K. J-434 A4 1-< 2000 H

Film counter

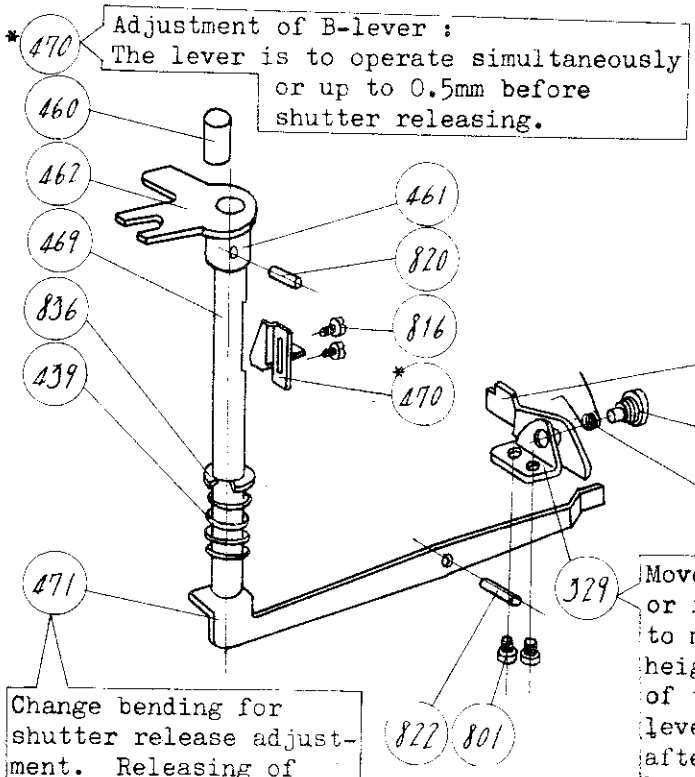
Adjustment proceeds as follows:
Advance the scale to 10 - 20 after being assembled. In this position, be sure of engagement of stopper pawl #519 to the ratchet. Set index plate #504 to the scale. Then, adjust the advancement by means of eccenter pin #508. Open the camera back. Return the counter to Zero. In this position, if any displacement is found between S and the index, make adjustment by bending the stopper part of the ratchet #502.


502
Change bending to adjust S position of the scale.
508
Eccenter pin for adjusting counter advancement. (After adjusted, cement with lacquer.)
504
Turn this to adjust the advancement on the way.

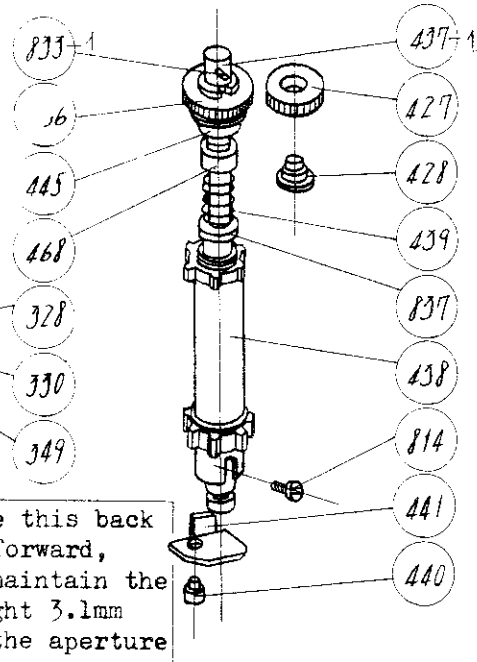


FS
FT - Fig. 8

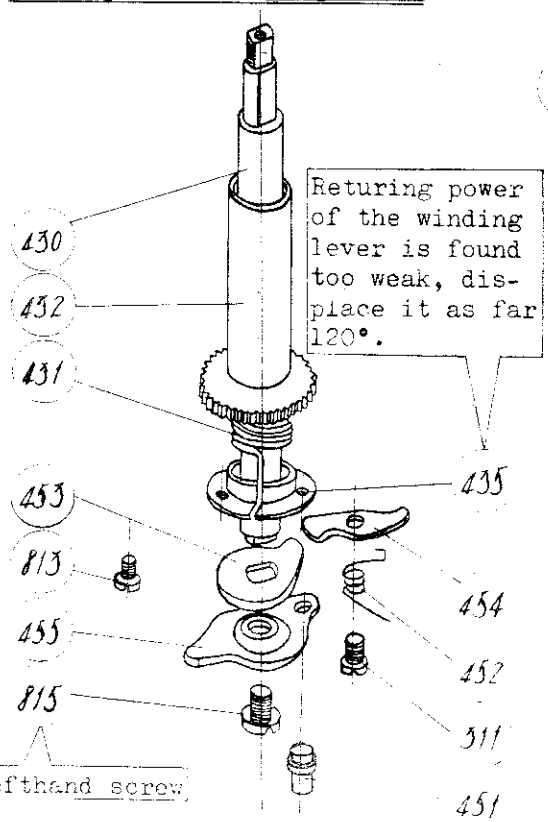
Push button shaft and sec-saw lever


*470
Adjustment of B-lever : The lever is to operate simultaneously or up to 0.5mm before shutter releasing.
460
462
469
836
439
471
461
820
816
*470
329
822
801
Move this back or forward, to maintain the height 3.1mm of the aperture lever before or after winding.
Change bending for shutter release adjustment. Releasing of safety device and the releasing position are to be adjusted so that shutter is released simultaneously or up to 0.3mm (in stroke) after the releasing.

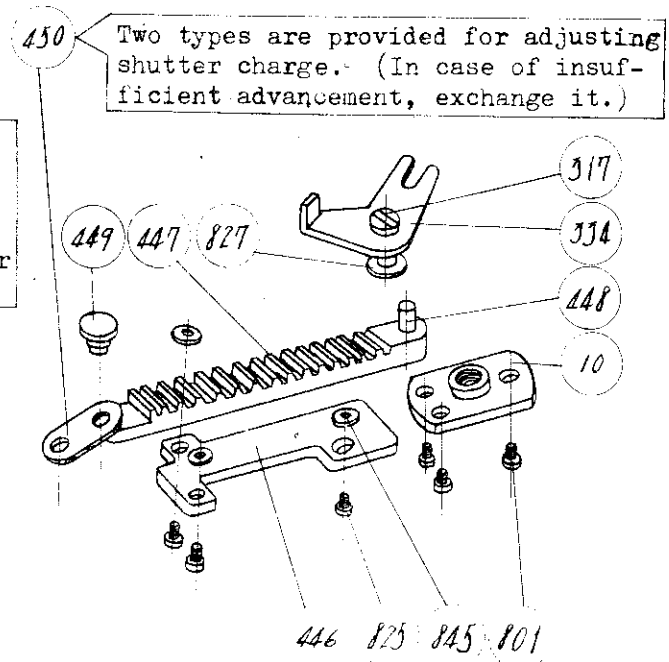
Sprocket shaft



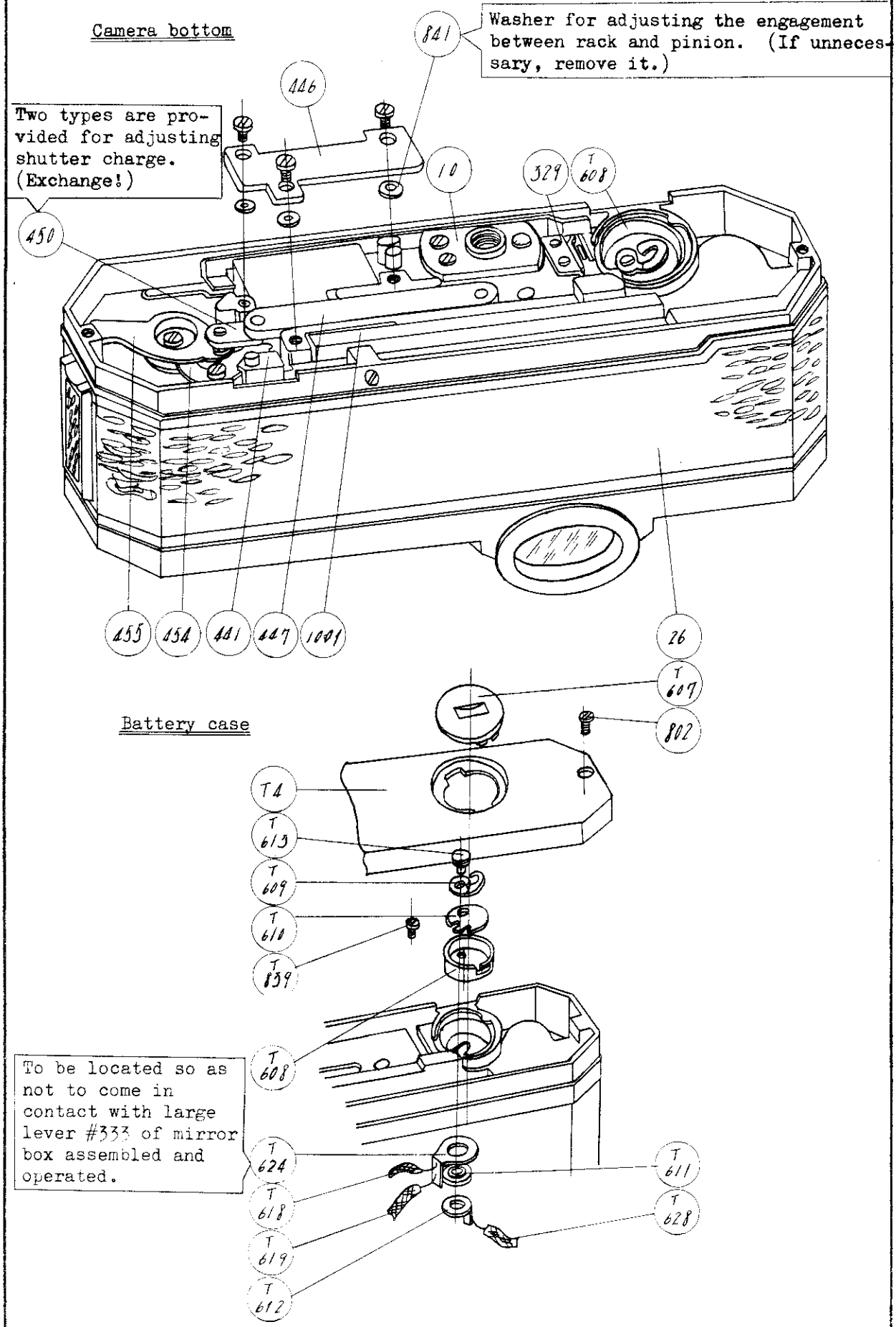
Lower part of winding shaft



Rack plate and tripod socket

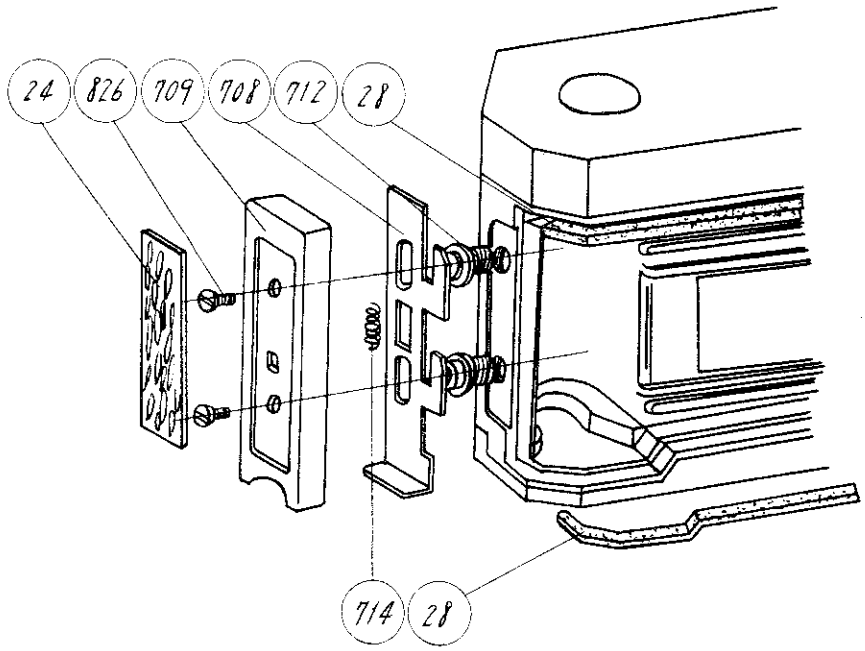


FS - Fig. 9
FT

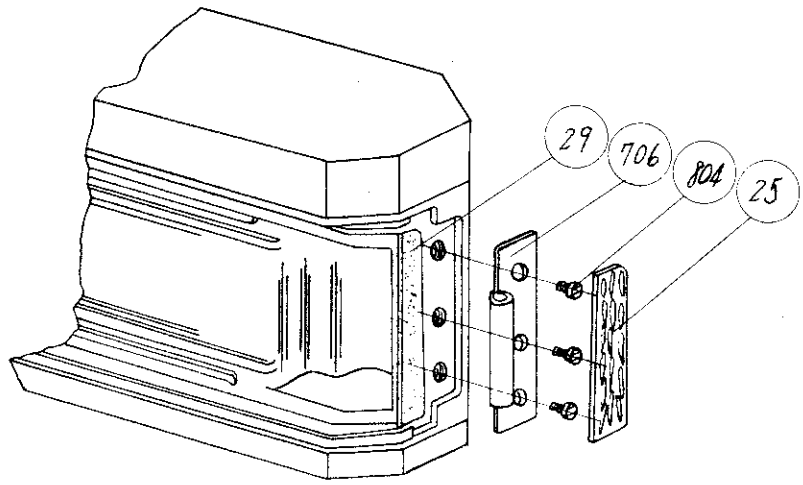

Camera bottom
841
Washer for adjusting the engagement between rack and pinion. (If unnecessary, remove it.)
446
Two types are provided for adjusting shutter charge. (Exchange!)
10
329
T 608
450
455
454
441
447
1001
26
T 607
802
Battery case
T4
T 613
T 609
T 610
T 839
T 608
To be located so as not to come in contact with large lever #333 of mirror box assembled and operated.
T 624
T 618
T 619
T 612
T 611
T 628

FT - Fig. 10

Latch

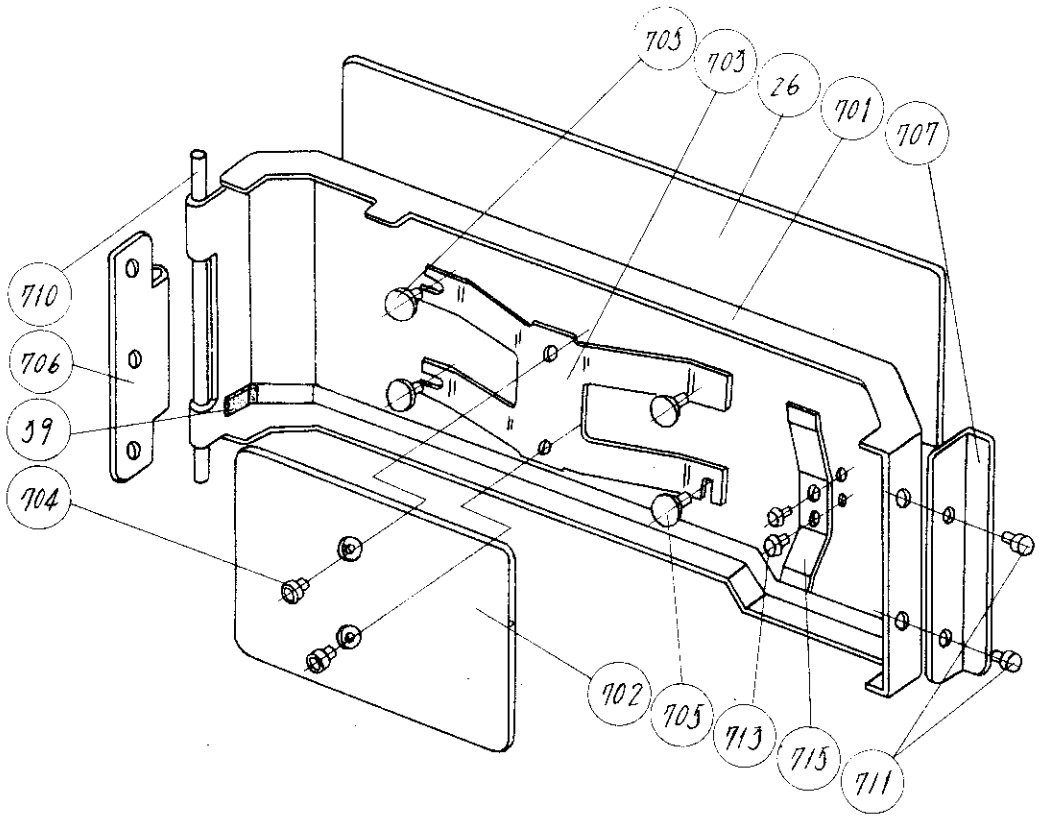


Hinge



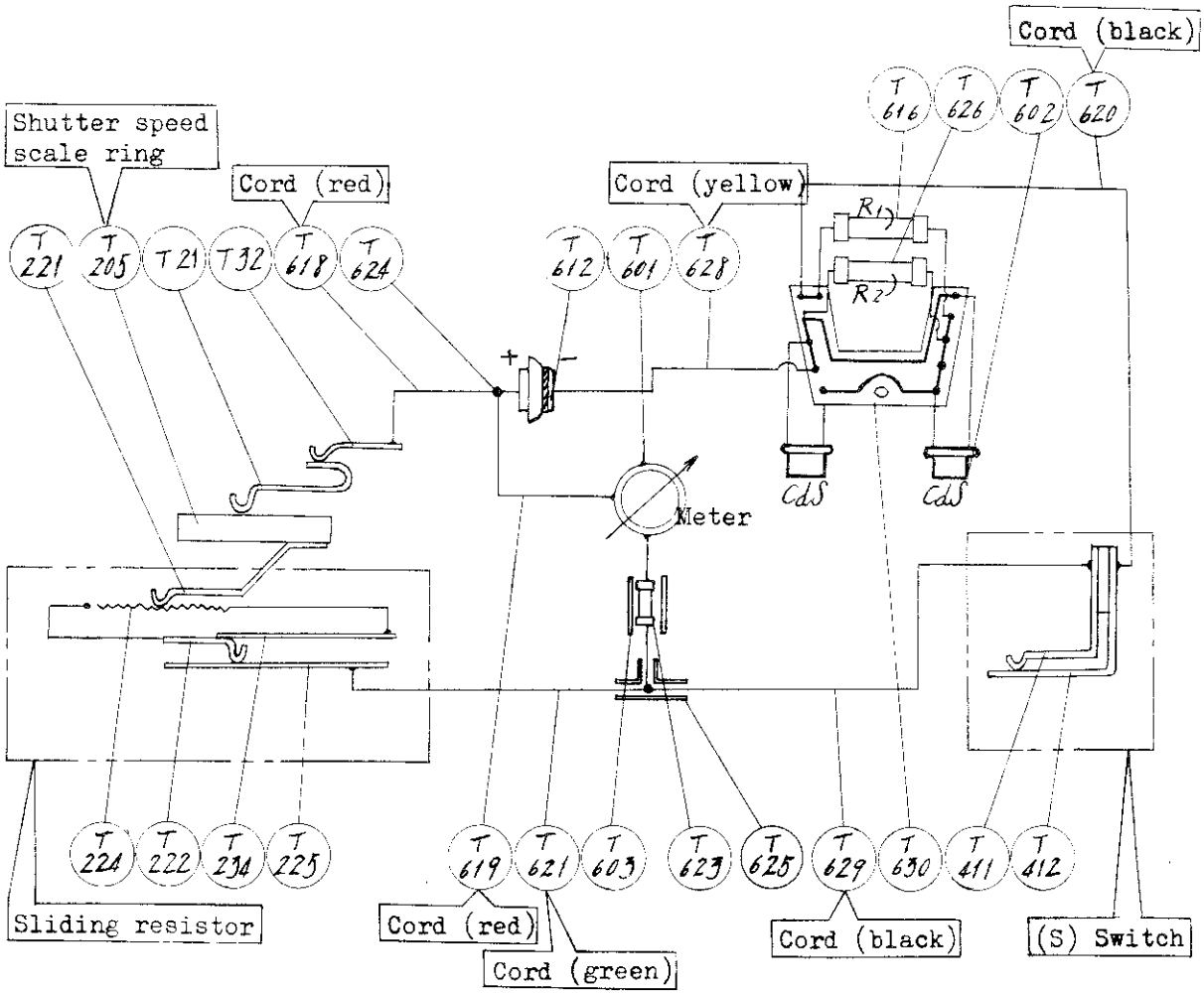
PS
FT - Fig. 11

Back cover, hinge



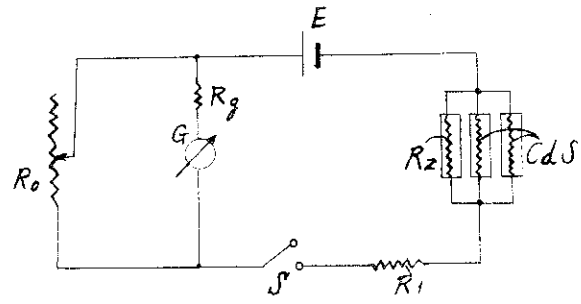
FS
FT - Fig. 12

Schematic view of wiring



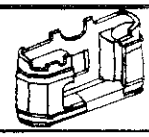
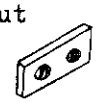
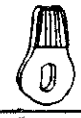
Wiring diagram

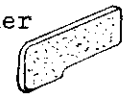
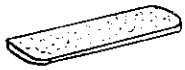
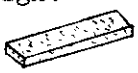
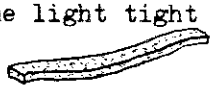
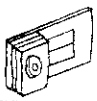
S = Switch
Rl = Resistor
RO = Sliding resistor
G = Meter
E = Battery
CdS = Cadmium sulfide photo-conductor

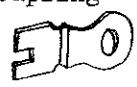
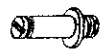


FT - Fig. 13

RA

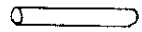
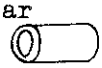
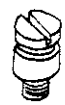
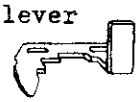
No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31FB-1	Body 	1		3, 4	×	
10	Tripod socket	1		9, 10	○	
11	Eyelet	2		2	○	
12	Synchro terminal nut plate 	1	SA1 TA1	2	○ △	
15	Synchro terminal	2	SA1 TA1	2	○ △	
16	Self-timer lever 	1		2, 4	○	
17-1	Self-timer coupling lever	1	C14-1	4	△	
18	Self-timer lever shaft	1	SC1 TC1	2, 4	△	
19	Self-timer lever screw	1	SC1 TC1	2, 4	○ △	
20	Front plate hole cover	1		2, 4	○	
22	Right front leather	1		2	○	
23	Left front leather	1		2	○	

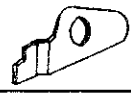
No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembl.	Ref. Fig. No.	Term of Sale	Remarks
31FB-24	Latch cover leather	1		11	○	
25	Hinge side leather	1		11	○	
26	Back cover leather 	1	E 1	10, 12	○ △	
27	Name plate	1		2	○	
28	Body light tight sheet	2		11	○	
29	Hinge light tight sheet 	1		11	○	
31	Eye guard light tight sheet 	1		4, 5	○	
33	Top cover leather	1	SA1 TA1	2	○ △	
34	Fresnel frame light tight sheet 	1	SC1 TC1	5	○ △	
35	Front plate lower light tight sheet	1	SC1 TC1	4	○ △	
37	Front plate upper light tight sheet	1	SC1 TC1	5	○ △	
38	Take-up shaft dust-tight ring	1	SA1 TA1	2	△	
39	Light tight sheet	2	E1	12	○ △	
1001	Shutter 	1		3, 10	○	

No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31FB-						
207	ASA ring stopper	1	SD5 TD5	3	○△	
208	Bayonet spring	3	SD5 TD5	3	○△	
212	Lens lock pin	1	D6	4	△	
213	Lens lock lever	1	D6	4	△	
214	Lens lock lever coupling 	1	SC1 TC1	4	○△	
215	Lens lock axle 	1	SC1 TC1	4	○△	
216	Lens lock button spring	1	SC1 TC1	4	○△	
217	Lens lock button	1	SC1 TC1	4	○△	
218	Lock button base nut	1	SC1 TC1	4	○△	
219	Shutter A gear	1	SD1 TD1	3	△	
223	Lens lock button base	1	SC1 TC1	4	○△	
227	D gear bearing	1	C13	2, 4	△	

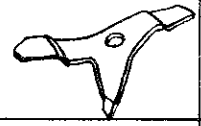
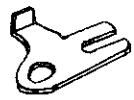
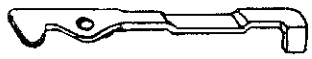
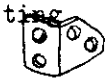
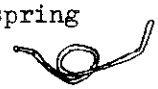
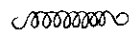
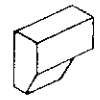
No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31FB-						
229	Shutter B gear	1	C12	2, 4	△	
230	Shutter C gear	1	C12	4	△	
231	Shutter D gear	1	C13	4	△	
232	D gear axle	1	C13	4	△	
233	B, C gear bearing	1	C12	4	△	

RB1

No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31FB-301-1	Mirror support	1	C2-1	6	△	
302-1	Pin seat rivet	2	C2-1	6	△	
304-1	Mirror support pin bearing	1	C2-1	6	△	
305-1	Mirror support pin	1	C2-1	6	△	
306	Mirror shaft 	1	SC1 TC1	6	○△	
307	Mirror shaft collar (left side) 	1	SC1 TC1	6	○△	
308	Mirror spring	1	SC1 TC1	6	○△	
309	Manual aperture button base	1	SA1 TA1	2	△	
310	Manual aperture button axle	1		2	○	
311	A.R lever axle	1		9	○	
312	Spring retaining screw 	1	SC1 TC1	6	○△	
313	Manual aperture lever 	1	SC1 TC1	6	○△	
314	Aperture lever	1	C10	2, 6	△	
315	Mirror angle adjusting pin	1	C3	6	△	

No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31FB-316-1	Mirror angle adjusting lever	1	C3-1	6	△	
317	Large lever axle	2	SC1 TC1	6, 9	○ △	
318	Left coupling lever pin	1	C5	6	△	
319	Coupling lever shaft	1	C4	6	△	
320	Right coupling lever	1	C4	6	△	
321	Mirror up lever	1	C8	6	△	
322	Mirror down lever	1	C7	6	△	
323	Mirror down lever sleeve	1	C7	6	△	
324	Down lever axle	1	SC1 TC1	6	○ △	
325	Mirror up spring retainer	1	C8	6	△	
326	Spring retainer	1	C7	6	△	
327	Mirror down spring retainer	1	SC1 TC1	6	○ △	
328	Mirror up holding lever 	1	B10	9	△	
329	Mirror up holding lever base	1	B10	9, 10	△	
330	Mirror up holding lever axle	2	B10 C3	2, 6 9	△	

RB1

No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31FB-331	Set lever axle	1	SC1 TC1	6	○ △	
332	Set lever	1	SC1 TC1	6	○ △	
333	Coupling lever 	1	SC1 TC1	6	○ △	
334	Charge lever 	1		9	○	
335-1	Left coupling lever	1	C5-1	6	△	
336	Signal lever 	1	SC1 TC1	4	○ △	
337	Mirror angle adjusting base plate 	1	C3	2, 6	△	
338	Aperture button spring	1	SC1 TC1	6	○ △	
339-1	Mirror cushion spring 	1	C3	6	○ △	
340	Aperture lever spring	1	SC1 TC1	6	○ △	
341	Mirror up spring	1	SC1 TC1	6	○ △	
342	Mirror down spring 	1	SC1 TC1	6	○ △	
343	Lever cushion 	1	SC1 TC1	6	○ △	
345	Mirror up cushion sheet	1	SC1 TC1	6	○ △	

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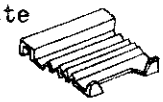
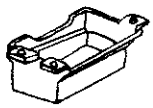
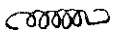
No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31FB-346	Mirror shaft collar (right)	1	SC1 TC1	6	○ △	
347	Set lever spring	1	SC1 TC1	6	○ △	
348	Light-baffle plate 	1	SC1 TC1	2, 6	○ △	
349	Mirror up holding lever spring	1	B10	9	○ △	
356	Manual aperture button	1		2	○	
357-1	Eye guard	1	A2-1	2	△	
358	Eye guard holder	1	SA1 TA1	2	△	
361	Fresnel retainer 	1		5	○	
362	Fresnel retainer	1		5	○	
363	Fresnel spacer	1		5	○	
364	Prism holding spring 	1		5	○	
365	Prism holder	1		2, 5	○	
367	Prism holder sheet	1		2, 5	○	

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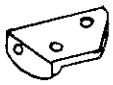
No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31FB-368	Coupling lever pin (right)	1	C4	6	△	
369	Aperture connecting lever	1	C9	6	△	
370	Aperture lever axle	1	SC1 TC1	6	○△	
371	Aperture lever spring pin	1	C9	6	△	
372	Aperture lever adjusting pin	1	C10	6	△	
373	Eyepiece	2	SC15 TC15	5	○△	
376	Side signal lever	1	C11	6	○△	
377	Side signal lever base 	1	C11	6	△	
378	Signal lever axle	1	SC1 TC1	4	○△	
379	Signal lever shoulder screw	1	SC1 TC1	4	○△	
380	Manual aperture lever shoulder screw	2	SC1 TC1	6	○△	
381	Side signal lever base screw 1.7 R – 1.8	1	SC1 TC1	6	○△	
382	Manual aperture spring retainer	1	SC1 TC1	6	○△	

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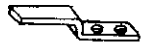
No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31FB-383	Side signal lever axle	1	C11	6	△	
385	Prism holding plate (left)	1		5	○	
386	Prism holding plate (right)	1		5	○	
388	Signal lever stop plate 	1	SC1 TC1	4	○△	
389	Set lever stopper	1	SC1 TC1	6	○△	
390	Tin foil	1		5	○	
391	Tin foil	1		5	○	
392	Eyepiece lens holding spring	1	A2-1	2	○△	

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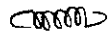
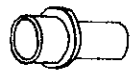
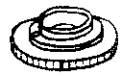
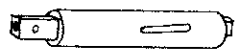
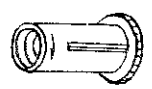
No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31FB-401	Take-up lever	1	B15	7	△	
402	Take-up lever retaining screw	1		7	○	
403	Take-up lever retaining screw nut	1		7	○	
404	Take-up lever spring washer	1		7	○	
405	Take-up lever pin	1	B15	7	△	
406	Take-up lever tube	1		7	○	
407	Release cam pin	1	B6	7	△	
408	Meter contact cam ring	1		7	○	
413	Contact claw releasing cam	1	B6	7	△	
414	Cam intermediate plate	1		7	○	
415	Lever pawl cam	1		7	○	
416	Take-up lever intermediate base	1		7	○	
417	Cam contact claw guide plate	1		7	○	
418	Stopper plate	1	B5	7	△	

No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31FB-419	Stopper	1	B5	7	△	
420	Stopper spring 	1	B5	7	○△	
421	Stopper axle	1	B5	7	△	
422	Take-up gear shaft 	1	B3	7	△	
423	Take-up gear 	1	B4	7	△	
424	Advancing cam	1	B4	7	△	
425	Idle gear A	1	B3	7	△	
426	Idle gear B	1	B3	7	△	
427	Idle gear C	1	B3	7, 9	△	
428	Idle gear C axle	1	B3	7, 9	△	
429	Spool upper gear	1		7	○	
430	Take-up shaft 	1	B1	7, 9	△	
431	Lever return spring	1	B1	9	△	
432	Spool 	1		9	○	
433	Spool spring	1		7	○	

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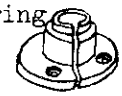
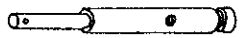
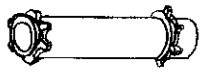
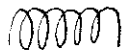
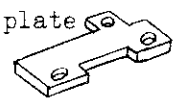
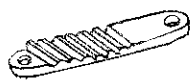
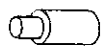
No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31FB-434	Spool collar	1		7	○	
435	Take-up shaft bearing 	1		9	○	
436	Sprocket upper gear	1		9	○	
437	Sprocket shaft 	1		9	○	
438	Sprocket 	1		9	○	
439	Release button shaft spring 	2		9	○	
440	Rewind button	1	B17	9	△	
441	Rewind button guide plate	1	B17	9, 10	△	
442	Pawl collar	1	B3	7	○	
443	Pawl	1	B3	7	○	
444	Pawl spring	1	B4	7	○	
445	Sprocket shaft bearing	1		9	○	
446	Rack retaining plate 	1		9, 10	○	
447	Rack 	1	B9	9, 10	△	
448	Charge pin 	1	B9	9	△	

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No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31FB-449	Rack coupling pin	1	B9	9	△	
450	Rack coupling lever	1	B9	9, 10	△	
451	Take-up stroke cam pin	1	B2	9	△	
452	A.R lever spring	1		9	○	
453	A.R lever release cam	1		9	○	
454	A.R lever	1		9, 10	○	
455	Take-up stroke cam	1	B2	9, 10	△	
456-1	Film counter base metal	1	B11-1	8	△	
457	Take-up shaft base metal	1	B3	7	△	
458	Release button cover ring	1	SA1 TA1	2	△	
459	Release button	1		2	○	
460	Release inner rod	1		2, 9	○	
461	Double esposure preventing lever collar	1	B8	9	△	
462	Double exposure preventing lever	1	B8	9	△	
463	Cam contact claw	1	B7	7	△	

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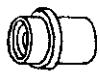
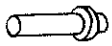
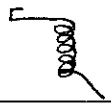
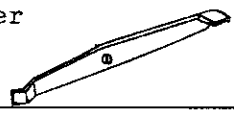
No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31FB-464	Cam contact claw collar 	1	B7	7	△	
465	Claw shaft 	1	B3	7	△	
466	Claw spring 	1		7	○	
467	Claw washer	1	B7	7	△	
468	Sprocket spring	1		9	○	
469	Release shaft	1	B8	9	△	
470	B-action lever	1		9	○	
471	See-saw lever 	1		9	○	

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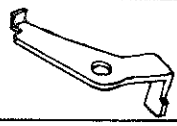
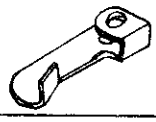
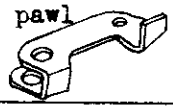
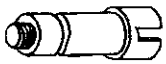
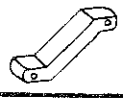
No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31FB-501-1	Film counter scale	1	B13-1	8	△	
502	Counter ratchet wheel	1	B13	8	△	
503	Counter ratchet boss	1	B13	8	△	
504	Counter index plate	1	B11	8	○△	
505	Counter scale shaft	1	B11	8	△	
506	Counter spring	1	B11	8	○△	
507	Counter stop pin	1	B11	8	△	
508-1	Counter adjusting pin	1	B19	8	△	
509-1	Ratchet advancing lever A	1	B19	8	△	
510-1	Film counter release lever 	1	B11-1	8	△	
511	Film counter release lever spring	1	B11	8	○△	
512-1	Film counter release lever axle	1	B11-1	8	△	
513-1	Ratchet advancing B lever	1	B20	8	△	
514	Ratchet advancing B lever boss	1	B11	8	△	
515	Ratchet advancing B lever shaft	3	B11	8	△	

No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31FB-516	Advancing B lever spring	1	B11	8	○△	
517	Advancing pawl spring	1	B11	8	○△	
518	Advancing pawl 	1	B11	8	○△	
519	Ratchet locking pawl 	1	B11	8	○△	
520	Ratchet locking pawl spring	1	B11	8	○△	
521	Ratchet locking pawl pin	1	B11	8	△	
522-1	Counter scale window	1	SA1-1 TA1-1 TA1-2	2	○△	
523-1	Advancing lever eccentric axle	1	B11-1	8	○△	
524	Advancing A lever washer	1	B11-1	8	○△	
525 See P.44						
551	Rewinding shaft bearing	1	B18	7	○△	
552	Rewinding shaft 	1	B18	7	○△	
553	Rewinding shaft click spring	1	B18	7	○△	
554	Rewinding shaft nut	1		2, 7	○	
555	Rewind knob	1		7	○	
556	Rewind lever 	1	B16	7	△	

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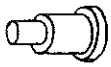
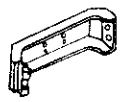
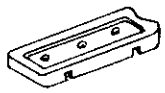
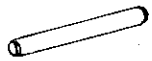
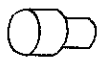
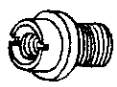
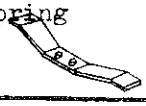
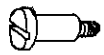
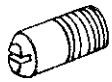
No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31FB-557	Rewind lever knob shaft 	1	B16	7	△	
558	Rewind lever knob	1	B16	7	△	
559	Rewind lever spring	1		7	○	
560	Counter scale shaft washer	1	B11	8	○ △	
525	Counter scale window frame	1	SA1-1 TA1-1 TA1-2	2	△	

No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31FB-701	Back plate 	1	E1	12	△	
702	Pressure plate	1	E2	12	△	
703	Pressure plate spring	1	E2	12	△	
704	Pressure plate stud	2	E2	12	△	
705	Pressure plate spring holder pin	4	E1	12	△	
706	Back plate hinge	1	E1	11	○△	
707	Latch retaining plate	1	E1	12	△	
708	Latch	1		11	○	
709	Latch cover 	1		11	○	
710	Hinge shaft 	1	E1	12	○△	
711	Latch rivet 	2	E1	12	△	
712	Latch slide guide 	2		11	○	
713	Film cartridge spring rivet	2	E1	12	△	
714	Latch spring	1		11	○	
715	Film cartridge spring 	1	E1	12	△	

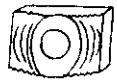
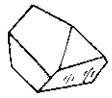
RB1

No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31FB-801	Tripod socket screw 2R - 3	16	SC1 TC1	2, 3, 4, 7, 8, 9	○△	
802	Shutter screw 	1		3, 10	○	
803	Front cover screw 1.7P - 3.5	4		2	○△	
804	Bottom plate screw 1.7Q - 2.5	5		11	○	
805	Bayonet set screw 2R - 3.5	4		3	○	
806	ASA ring stopper screw (45°) 1.4Q - 2.5	2	SD5 TD5	3	○△	
807	Bayonet spring screw 1.7R - 1.8	6	SD5 TD5	3	○△	
808	Index plate screw 1.4T - 1.5	1	B11	8	○△	
809	Light baffle plate screw 2R - 2	1	SC1 TC1	6	○△	
810	Front plate screw	9		2, 3, 4	○	
812	Locking pawl shaft screw	2	B3 B11	7, 8	○△	
813	Take-up shaft bearing screw	5	SC1 TC1	4, 9	○△	
814	Sprocket screw	1	SC1 TC1	2, 3, 9	○	
815	Take-up shaft fastening screw	1		9	○	

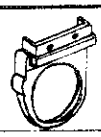
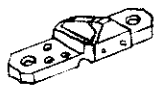
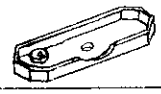
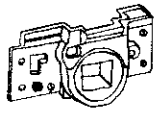
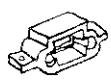
No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31FB-816	B-action lever screw 1.4R - 3	2		9	○	
817	Advancing cam stop pin	1	B4	7	△	
818	A-gear pin	3	SD1 TD1	3	△	
819	Take-up shaft pin SP1 - 4	1		7	○	
820	Releasing shaft pin SP1 - 6	1	B8	9	○△	
821	Rewind lever pin SP1 - 8	1		7	○	
822	See-saw lever pin SP1.6 - 8	1		9	○	
824	Shutter attaching nut 2N - 1.5	1		3	○	
825	Rack holder screw 2Q - 3.5	3		9	○	
826	Latch cover screw	2		11	○	
827	Aperture lever shaft washer	4	SC1 TC1	3, 6, 9	○△	
828	Mirror angle adjusting plate screw 2Q - 3.5	2	SC1 TC1	2, 6	○△	
829	Shutter dial stopper screw 2R - 2	2		2	○	
830	Shutter button guide screw 1.4R - 1.5	1		2	○	

No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31FB-831	Focus adjusting washer	5		5	○	
832	Prism box screw 2R - 4	3		5	○	
833-1	Sprocket shaft pin  SP1.6 - 6	1		9	○	
835	E-ring	4	SC1 TC1	8	○△	
836	Releasing shaft E-ring	1		9	○	
837	Sprocket shaft washer	1		9	○	
838	Film counter release lever washer	1	B11	8	○△	
841	Mirror down lever washer	1	SC1 TC1	6, 10	○△	
842	Shutter spring washer	1		3	○	
843	Eyepiece frame screw	2		5	○	
845	Rack adjusting washer	3		9	○	
847	Manual aperture lever washer	2	SC1 TC1	6	○△	

849
850
851, 852
See P.49
RBI

No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31FB-G1	Mirror	1	SC1 TC1	6	○ △	
G2	Fresnel 	1		5	○	
G3	Condenser lens	1		5	○	
G4	Prism 	1		5	○	
G5	Eyepiece lens	1	C16	5	△	
G6	"	1	C16	5	△	
G7-1	Eyepiece dust proof glass	1	A2-1	2	○△	
G10	Light acceptance lens	2	TC15	5	○△	(for 31F2B)
849	Back focus adjusting washer	4		3	○	
850	Advancing A lever screw	1	B11-1	8	○ △	
851	Shutter washer	1		3	○	
852	Shutter screw	2			○	

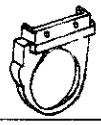
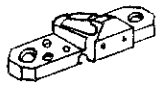
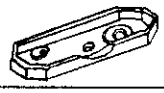
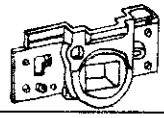
RB1

No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31F1B-S2-1	Front cover 	1		5	○	
S3-1	Top cover 	1	SA1-1	2	△	
S4	Bottom cover 	1		10	○	
S6	Front plate 	1	SC1	2, 4, 5	△	
S201	Bayonet base	1	SD5	3	○△	
S202	Bayonet	1		3	○	
S203	Mount intermediate ring	1		3	○	
S205	Shutter A gear ring	1	SD1	3	△	
S220	Shutter speed scale	1		3	○	
S228	Shutter speed knob	1		3	○	
S359	Eyepiece frame 	1	SC15	2, 5	△	

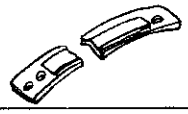
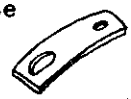
RB1

No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31F1B-S360	Eyepiece frame light tight plate	2	SC15	5	○△	
S375	Light-baffle sheet	2	SC1	6	○△	
S811	Shutter button screw	1		3	○△	

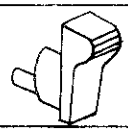
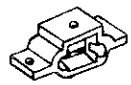
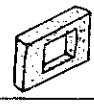
RB1

No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31F2B-T2-1	Front cover 	1		5	○	
T3-1	Top cover 	1	TA1-2	2	△	
T4	Bottom cover 	1		10	○	
T6	Front plate 	1	TC1	2, 4, 5	△	
T21	Earth terminal plate	1	TC1	4, 13	○△	
T32	Earth piece	1	TB14	4, 13	○△	
T36	Meter window cover	1	TA1	2	○△	
T201	Bayonet base	1	TD6	3	△	
T202	Bayonet	1		3	○	
T203	Diaphragm coupling ring	1	TD3	3	△	
T204	Resistor base ring	1	TD2	3	△	
T205	Shutter A gear ring	1	TD1	3, 13	△	
T206	Diaphragm coupling pin	1	TD3	3	△	

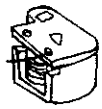
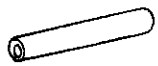
RB1

No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31F2B-T209-1	ASA clip spring	1	TD4	3	△	
T211	ASA pin	1	TD4	3	△	
T220	Shutter speed ring	1		3	○	
T221	Resistor brush	1	TD1	3, 13	△	
T222	Brush	1	TD2	3, 13	○△	
T224	Resistor 	1	TD2	3, 13	○△	
T225	Conductive plate	1	TD5	3, 13	○△	
T234	Resistor base plate 	1	TD2	3, 13	○△	
T226	Brush rivet	3	TD2	3	○△	
T235	Brush rivet	2	TD1	3	△	
T236	Click spring	1		3	○	
T237	Click spring screw	1	TD5	3	○△	

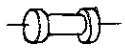
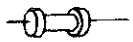
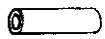
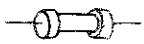
RB1

No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31F2B-T350	Mirror up axle	1	TC1	6	○△	
T353	Mirror up lever	1		6	○	
T354-1	Mirror up button 	1	TC1 TC1-1	6	○△	
T355	Mirror up lever spring	1	TC1	6	○△	
T359	Eyepiece frame 	1	TC15	2, 5	△	
T366	Meter window cover 	1	TC1	2, 5	○△	
T409	Contact insulating plate	2	TB12	7	△	
T410	Contact retaining plate	1	TB12	7	△	

RB1

No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31F2B-T411	Contact A	1	TB12	7, 13	△	
T412	Contact B	1	TB12	7, 13	△	
T601	Meter 	1		2, 5, 13	○	
T602	CdS	1	TC15	5, 13	○△	
T603	Tube 	1		13	○	
T607	Battery cap	1		10	○	
T608	Battery case	1	TB14	10	△	
T609	Battery spring plate	1	TB14	10	△	
T610	Insulating plate	1	TB14	10	△	
T611	Insulating washer	1	TB14	10	△	
T612	Tip A	1	TB14	10, 13	△	

RB1

No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31F2B-T613	Tip rivet	1	TB14	10	○△	
T615	Mercury battery	1		13	◎	
T616	Resistor  40Ω, 50Ω, 60Ω, 70Ω	1	TC17	7, 13	○△	
T617	Meter window	1	TA1	2	○△	
T618	Lead wire (red) D4233	1	TB14	4, 10, 13	○△	
T619	"	1	TB14	13	○△	
T620	Lead wire (black) D4231	1	TB12	7, 13	○△	
T621	Lead wire (green) D4236	1	TD6	13	○△	
T623	Meter resistor  1KΩ, 2KΩ, 3KΩ	1		13	○	
T624	Tip B	1	TB14	10, 13	△	
T625	Cord tube 	3		13	○	
T626	Resistor  250KΩ, 400KΩ, 750KΩ	1	TC17	13	○△	
T628	Lead wire (yellow) D4235	1	TD14	10, 13	○△	

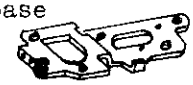
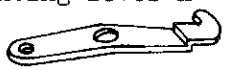
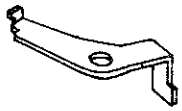
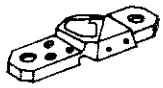
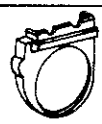
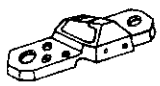
RB1

No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31F2B-T629	Lead wire (black) D4231	1	TB12	7, 13	○△	
T630	Print	1	TC17	2, 5, 13	○△	
T809	Earth terminal screw 2R - 2	2	TC1	6	○△	
T813	Meter screw	2		5	○	
T816	Meter contact screw 1.4R - 3	1		7	○	
T823	Mirror up coupling shaft pin TP1 - 6	1	TC1	6	○△	
T827	Mirror up lever washer	1	TC1	6	○△	
T839	Battery case screw 1.4Q - 2	1		10	○	

RB1

No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31F2B-T840	Earth piece screw	1		4	○	
T844	Shutter speed ring set screw 1.7US - 2	2		3	○	
T846	Printed circuits plate screw	1		2, 5	○	
T848	Shutter speed ring screw	1		3	○	

RB1

No. of Part	Name and Shape	Pcs. per Unit	No. of Subassembly	Ref. Fig. No.	Term of Sale	Remarks
31FB-17	Self-timer coupling lever	1	C14	4	△	17-1
456	Film counter base metal 	1	B11	8	△	456-1
508	Coupling adjusting pin	1	B11	8	△	508-1
509	Ratchet advancing lever A 	1	B11	8	△	509-1
510	Film counter release lever 	1	B11	8	△	510-1
512	Film counter release lever axle	1	B11	8	△	512-1
513	Ratchet advancing B lever	1	B11	8	△	513-1
522	Counter scale window	1	SA1 TA1	2	○△	522-1
31F1B-S2	Front cover	1		5	○	S2-1
S3	Top cover 	1	SA1	2	△	S3-1
31F2B-T2	Front cover 	1		5	○	T2-1
T3	Top cover 	1	TA1 TA1-1	2	△	T3-1
T354	Mirror up button	1	TC6	6	△	T354-1

	No. of Subassembly	Name	Pcs. per Unit	No. of Constituent Parts (*: Main parts)	Ref. Fig.No.	Remarks
Top cover	31F1B - SA1	Top cover (S)	1	*S3, 12, 15x2, 33, 38 309, 310, 358, 458 522	2	
	31F1B - SA1-1	Top cover (S)	1	*S3-1, 12, 15x2, 33 38, 309, 310, 356, 358 458, 522-1, 525	2	
	31F2B - TA1	Top cover (T)	1	12, 15x2, 33, 38, 309 310, 356, 358, 458 459, 522, 830, *T3 T36, T617	2	
	31F2B - TA1-1	Top cover (T)	1	12, 15x2, 33, 38, 309 310, 356, 358, 458 459, 522-1, 525, 830 *T3, T36, T617	2	
	31F2B - TA1-2	Top cover (T)	1	12, 15x2, 33, 38, 309 310, 356, 358, 458 459, 522-1, 525, 830 *T3-1, T36, T617	2	
	31FB - A2	Eye guard	1	*357, G7	2	
	31FB - A2-1	Eyeguard	1	*357-1, 392, G7-1	2	
Body	31FB - B1	Take-up shaft	1	*430, 431	7, 9	
	31FB - B2	Take-up stroke cam	1	451, *455	9, 10	
	31FB - B3	Take-up shaft base metal	1	422, 425, 426, 427 428, 442, 443, 444 *457, 465, 812	7, 8 9	
	31FB - B4	Take-up gear	1	*423, 424, 817	7	
	31FB - B5	Stopper	1	*418, 419, 420, 421	7	
	31FB - B6	Contact claw releasing cam	1	407, *413	7	
	31FB - B7	Cam contact claw	1	*463, 464, 467	7	

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	No. of Subassembly	Name	Pcs. per Unit	No. of Constituent Parts (*: Main parts)	Ref. Fig.No.	Remarks
Body	31FB - B8	Release shaft	1	461, 462, *469, 820	9	
	31FB - B9	Rack	1	*447, 448, 449, 450	9, 10	
	31FB - B10	Mirror up holding lever	1	*328, 329, 330, 349	2, 6 9, 10	
	31FB - B11	Film counter base metal	1	B13, *456, 504, 505 506, 507, 508, 509 510, 511, 512, 513 514, 515x2, 516, 517 518, 519, 520, 521 560, 808, 812, 835x2 838	8	
	31FB - B11-1	Film counter metal	1	B13, B19, B20, B21 368, *456-1, 504, 505 506, 507, 510-1, 511 512-1, 515x2, 516, 517 518, 520, 523-1, 524 560, 808, 835x3, 838 850	6, 8	
	31F2B - TB12	Meter switch	1	T409x2, T410, *T411 T412, T620, T629	7, 13	
	31FB - B13	Film counter scale	1	*501, 502, 503	8	
	31FB - B13-1	Film counter scale	1	*501-1, 502, 503	8	
	31F2B - TB14	Battery case	1	T32, *T608, T609, T610, T611, T612 T613, T618, T619 T624, T628	4, 10 13	
	31FB - B15	Take-up lever	1	*401, 405	7	
	31FB - B16	Rewind lever	1	*556, 557, 558	7	
	31FB - B17	AR button	1	*440, 441	9, 10	
	31FB - B18	Rewind shaft	1	*551, 552, 553	7	

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	No. of Subassembly	Name	Pcs. per Unit	No. of Constituent Parts (*: Main parts)	Ref. Fig.No.	Remarks
Body	31FB - B19	Ratchet advancing A lever	1	508-1, *509-1	8	
	31FB - B20	Ratchet advancing B lever	1	*513-1, 514, 515	8	
	31FB - B21	Ratchet locking pawl	1	519, 521	8	
Front plate	31F1B - SC1	Front plate (S)	1	C2, C3, C4, C5, C7, C8 C9, C10, C11, C12, C13 C14, 16, 19, 34, 35 37, 214, 215, 216, 217 218, 223, 306, 307 308, 312, 313, 317 324, 327, 331, 332 333, 336, 338, 340 341, 342, 343, 345 346, 347, 348, 370 378, 379, 380x2, 381 382, 388, 389, 801x3 809, 813x2, 827x2, 828 x2, 835, 841, 847x2 *S6, S375, G1	2, 3 4, 5 6, 7 8, 9 10	
	31F2B - TC1	Front plate (T)	1	C2, C3, C4, C5, TC6, C7, C8, C9, C10, C11 C12, C13, C14, 16, 19 34, 35, 37, 214, 215 216, 217, 218, 223 306, 307, 308, 312 313, 317, 324, 327 331, 332, 333, 336 338, 340, 341, 342 343, 345, 346, 347 348, 370, 378, 379 380x2, 381, 382, 388 389, 801x3, 809, 813x2 827x2, 828x2, 835, 841 847x2, *T6, T21, T350 T353, T355, T366, T809 x2, T823, T827x2, G1	2, 3 4, 5 6, 7 8, 9 10, 13	

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Front plate

No. of Subassembly	Name	Pcs. per Unit	No. of Constituent Parts (*: Main parts)	Ref. Fig.No.	Remarks
31F2B - TC1-1	Front plate (T)	1	C2-1, C3-1, C4, C5-1 TC6, C7, C8, C9, C10 C11, C12, C13, C14-1 16, 19, 34, 35, 37 214, 215, 216, 217 218, 223, 306, 307 308, 312, 313, 317 324, 327, 331, 332 333, 336, 338, 340 341, 342, 343, 345 346, 347, 348, 370 378, 379, 380x2, 381 382, 388, 389, 801x3 809, 813x2, 827x2, 828 x2, 835, 841, 847x2 *T6, T21, T350, T353 T355, T366, T809x2 T823, T827x2, G1	2, 3 4, 5 6, 7 8, 9 10, 13	
31FB - C2	Mirror support	1	*301, 302x2, 304, 305	6	
31FB - C2-1	Mirror support	1	*301-1, 302-1x2, 304-1 305-1	6	
31FB - C3	Mirror angle adjusting lever	1	315, 316, 330, *337 339	2, 6 9	
31FB - C3-1	Mirror angle adjusting lever	1	315, 316-1, 330, *337 339-1	2, 6 9	
31FB - C4	Coupling lever shaft	1	*319, 320, 368	6	
31FB - C5	Left coupling lever	1	318, *335	6	
31FB - C5-1	Left coupling lever	1	318, *335-1	6	
31F2B - TC6	Mirror up button	1	T351, T352, *T354	6	
31FB - C7	Mirror down lever	1	*322, 323, 326	6	
31FB - C8	Mirror up lever	1	*321, 325	6	

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	No. of Subassembly	Name	Pcs. per Unit	No. of Constituent Parts (*: Main parts)	Ref. Fig.No.	Remarks
Front plate	31FB - C9	Aperture connecting lever	1	*369, 371	6	
	31FB - C10	Aperture lever	1	*314, 372	2, 6	
	31FB - C11	Side signal lever	1	376, *377, 383	6	
	31FB - C12	BC gear	1	229, 230, *233	2, 4	
	31FB - C13	D gear	1	*227, 231, 232	2, 4	
	31FB - C14	Self-timer lever shaft	1	*17, 18	2, 4	
	31FB - C14-1	Self-timer lever shaft	1	*17-1, 18	2, 4	
	31F1B - SC15	Eyepiece frame (S)	1	C16, 31, 373x2, *S359 S360x2	2, 4 5	
	31F2B - TC15	Eyepiece frame(T) (including CdS)	1	C16, 31, 373x2, T359 T602x2, G10x2	2, 4 5, 13	
	31FB - C16	Eyepiece lens	1	G5, G6	5	
	31F2B - TC17	Printed circuits plate	1	T616, T626, *T630	2, 5 7, 13	
Mount	31F1B - SD1	Shutter A gear (S)	1	219, 818x3, *S205	3	
	31F2B - TD1	Shutter A gear (T)	1	219, 818x3, *T205 T221, T235x2	3, 13	
	31F2B - TD2	Resistor base ring (T)	1	*T204, T222, T224 T226x3, T234	3, 13	
	31F2B - TD3	Diaphragm coupling ring (T)	1	*T203, T206	3	
	31F2B - TD4	ASA clip spring (T)	1	T209, *T211	3	
	31F2B - TD4-1	ASA clip spring (T)	1	T209-1, *T211	3	
	31F1B - SD5	Bayonet base (S)	1	207, 208x3, 806x2, 807 x6, *S201	3	

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	No. of Subassembly	Name	Pcs. per Unit	No. of Constituent Parts (*: Main parts)	Ref. Fig.No.	Remarks
Mount	31F2B - TD5	Bayonet base (T)	1	TD6, 207, 208x3, 806x2 807x6, T237	3, 13	
	31F2B - TD6	Bayonet base (T)	1	*T201, T225, T621	3, 13	
	31FB - D7	Lens lock pin	1	*212, 213	4	
Back plate	31FB - E1	Back plate	1	26, 39x2, 701, 705x4 706, 707, 710, 711x2 713x2, 715	10, 11 12	
	31FB - E2	Pressure plate	1	*702, 703, 704x2	12	

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Nikkormat FT Exposure Meter

§ 1. STANDARDS OF MAIN PARTS

(A) Resistance Characteristics of CdS Photo. Conductor T602

A - I Illumination - Resistance characteristics

	1 lux	100 lux	1000 lux
A-Standard	34 ~ 52 KΩ	1.6 ~ 2.25 KΩ	390 ~ 580 Ω
B-Standard	28 ~ 37 KΩ	1.35 ~ 1.75 KΩ	336 ~ 440 Ω
C-Standard	46 ~ 55 KΩ	2.05 ~ 2.60 KΩ	540 ~ 660 Ω

A - II EV - resistance characteristics

Two units of A-standard connected in parallel

EV	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Upper Limit	KΩ 153	KΩ 89	KΩ 51.0	KΩ 30.0	KΩ 18.2	KΩ 11	KΩ 6.9	KΩ 4.25	KΩ 2.65	KΩ 1.72	KΩ 1.13	Ω 745	Ω 495	Ω 332	Ω 222
Lower Limit	89	53.5	32.3	20.0	12.3	7.75	4.85	3.02	1.93	1.23	800 Ω	525	341	222	148

Each one unit of B- and C-standards connected in parallel

EV	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Upper Limit	KΩ 116	KΩ 71	KΩ 42.5	KΩ 26.0	KΩ 15.9	KΩ 10.0	KΩ 6.30	KΩ 3.92	KΩ 2.50	KΩ 1.62	Ω 1045	Ω 705	Ω 460	Ω 310	Ω 205
Lower Limit	92	55	33	20.2	12.45	7.80	4.90	3.02	1.93	1.23	814	535	350	233	157

Note: CdS of B-standard has a yellow, C-standard a white, and A-standard no mark on the rear side.

(B) Variable Resistor T224

EV	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Upper Limit	KΩ ∞	KΩ 13	KΩ 5.0	KΩ 2.35	KΩ 1.25	Ω 740	Ω 445	Ω 275	Ω 170	Ω 108	Ω 71	Ω 47	Ω 32.5	Ω 22.5	Ω 16.2
Lower Limit	20	6.4	2.8	1.48	Ω 865	525	315	200	124	80	53.5	36	24.5	17.5	13

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(C) Meter T601

Current when the needle comes to the center	12.3±1μA
Swing angle	10±2°
Internal resistance	about 3 KΩ
Torque	0.2 mg - cm/deg. or higher

(D) Fixed Resistor

R_1	T616	40,50,60,70,100 Ω
R_2	T626	250,400,750KΩ
R_3	T623	1, 2, 3, 3.5, 4, 4.5, 5 KΩ

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§2. TROUBLE CHART

Trouble	Cause	Checking	Remedy
Pointer needle does not move.	1.Batteries are not correctly deposited.	Open the battery chamber for checking	Make correction.
	2.Drain on the batteries.	Check for correct voltage of batteries.	Replace the batteries.
	3.Disconnection. (Not correctly soldered)	Check the circuit using the tester.	● Make connection. ● Replace the disconnected part.
	4.Contact on the batteries or switch is not good.	Check for correct functioning of #T608 and #T610. Check for sufficient conductivity of switch, using the tester.	● Clean the contact. ● Replace the part. ● Correct the bending of the contact or replace it.
	5.Short-circuit	Check the circuit, using the tester.	● Replace or insulate the short-circuited part.
	6.Moving part of meter is seized.	Meter needle does not move even when blown, or it stops at an indefinite position.	● Remove dust. ● Replace the meter.

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Trouble	Cause	Checking	Remedy
	7. Moving part of meter is seized, when the meter is fitted to the camera.	The needle does not move, although it moves correctly in the meter before assembly.	● Clean or replace the mirror housing window, condenser, pentaprism or meter
Unsteadiness of pointer needle indication.	1. Disconnection (not always)	Check the circuit, using the tester.	● Make connection. ● Replace the disconnected part.
	2. Incorrect contact of variable resistor. (not always)	Check for correct pressure of contact brush. The variable resistor is worn out.	● Adjust the contact brush. ● Replace the part.
	of switch	Check for sufficient conductivity.	Correct the bending of the contact or replace it.
	of battery chamber	Check for correct functioning of #T608 and #T610.	Cleaning, correct bending or replacement.

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Trouble	Cause	Checking	Remedy
	3. Short-circuit.	Check the circuit, using the tester.	Insulate or replace the short-circuited part.
	4. Moving part of meter is seized.		● Remove dust. ● Replace the meter.
	5. Inadequate friction of meter needle.	The position of needle when set at EV9 differs too much from that obtained after the meter is once faced toward a brightness of EV15 and then returned to EV9.	Replace the meter.
	6. Excessive slack of shutter dial.	Remarkable movement of needle within the range of the slack.	Adjust #227.
	7. Unbalance of meter needle.	Indication changes over 0.3mm at the end of needle, according to the posture of the meter.	Replace the meter.

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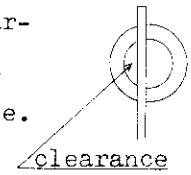
Trouble	Cause	Checking	Remedy
Too much difference between the indications by internal and external pointer needles.		With the internal needle coincided with the index, see if the external one come to touch the index circle with no clearance on one side. 	Replace the meter.
Incorrect zero-position of pointer needle.		Even when switched off, the needle does not go out of the frame.	Replace the meter.
Even with the cap put on, the needle moves.		Set the needle to EV-3, put on the cap and switch on. The needle swings close up to the index.	Replace R . Choose a resistance high enough to get the needles within ± 1/2 step.
Pointer needle is swung out.	1. The needle is adhered.	The needle moves normally when subjected to vibration.	Replace the meter.
	2. Insufficient conductivity of the shunt circuit.	Check for correct contact of #T222.	Replace the part.

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Trouble	Cause	Checking	Remedy
	3. Short-circuit on the printed wiring plate.	Check short-circuit on the lead wire, resistor and soldering points.	Insulate the short-circuited part.
Inaccuracy of indication.	1. Drain of batteries.	Insufficient swing of needle on the whole range. Check the voltage.	Replace the batteries.
	2. Aging or the like of CdS, variable resistor meter, or fixed resistor.	Although the movement needle is normal, high accuracy is not obtained. Check every part individually.	Replace the part below standards.
Loosening of ASA ring lock.	#T203 or #T209 wears down.	ASA ring moves unintensionally.	Replace the part.
Incorrect click of ASA ring.	Notch on #T203 is worn out. #T236 is broken.	Stop-down measuring click does not operate securely or at all.	Replace the part.

N.K.K. J-434 A4 1-X 2000 H

§ 3. DISASSEMBLING PROCEDURES OF THE EXPOSURE METER

1) Release #402, using a piece of rubber sheet to remove #403, #404 and #401. (Use the screw driver J11020)
Thereafter, remove #555 and #559 as well as #554 and #803. (Use the screw driver J11022)
Taking care of the synchro cord, push up the top plate of the camera gently and unsolder the parts.

2) Meter
Draw out #551. (Use the screw driver J11021)
Unscrew #T813 (meter setting screws)
Put it out carefully, taking care of the meter pointer needle and of the index.

3) Switch
Remove #T816.

4) Printed wiring plate.
Remove #T846.

5) Variable resistor
Unscrew four screws #810.
Holding #T220 (shutter ring), remove #213 and #214, to detach the whole bayonet part. Then , remove #T220, #T204 and #T203 from the bayonet in this order.

Note 1. When detaching the bayonet part from the front plate, take caution not to disconnect #T621 (green colored cord).

Note 2. For removing #T204, draw it out after bringing #T234 (brush) up to the position of the notch on the #T201.

6) CdS cells
Unsolder the printed wiring plate.
To remove the CdS cells, take them out by the flange of the sealed case, using the end of a screw driver.

N.K.K. J-434 A4 K 2000 H

§ 4. MEASUREMENT OF EACH PART OF METER

1) CdS cells

Disconnect all the wirings except for the CdS cells from the printed wiring plate. Take measurement of the parallel-connected resistance of the CdS cells. If the measuring result is not within the Standard §1.A - II, replace one or two of the cells.

For measurement, use the standard lens 50mm/1.4 (J18011).

Note: The above measurement should not be affected by the brightness of the surroundings.

2) Variable resistor

Connect the ends of #T619 and #T621 to the tester to measure the resistance.

Replace the resistor which is remarkably out of the standard.

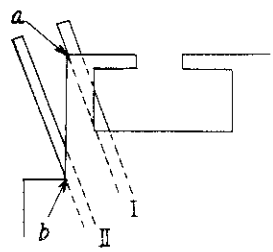
For the measurement, the slack of the shutter gear is to be adjusted to a minimum or to be brought to either side.

Use the standard lens 50mm/1.4 (J18011) for the measurement.

3) Meter

3) - 1 Position of the zero point

The outer side of the pointer needle needs only to locate between the positions coincident to the points a and b.



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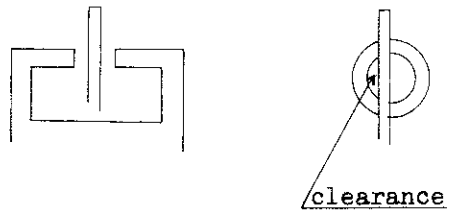
3) - 2 Displacement of the pointer needle

When the pointer needle in the finder is brought to the center, the top needle should have clearance on either side in the index ring (See Fig.).



4) Fixed resistor

Measure the resistance of each fixed resistor, using the tester.

§ 5. ASSEMBLING OF THE EXPOSURE METER

1) Variable resistor

Reverse the disassembling procedures mentioned in § 3 - 5), that is, fit #T203,#T204 and #T205 to #T201. Then, pass the green cord (#T621) through the hole in the front plate. Putting #213 into #214, gear up #219 with #229.

Note: Adjust the slack on the shutter dial by means of #227. At the same time, assure the short-circuit between the positions EV-2 and EV-3, with a clearance made at either end of the resistor against both the stoppers at B and 1/1000 sec.

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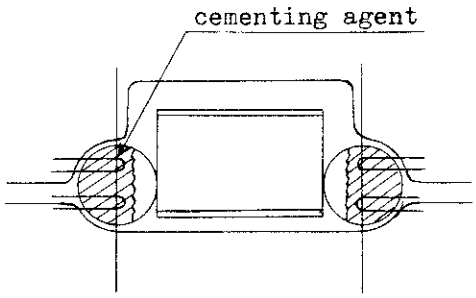
2) Meter

Set the mirror box in place, taking care of the pointer needle and the index.

Note: Viewing into the finder, fasten #T815 tightly, so that the index frame becomes parallel to the viewfield frame.

3) CdS cells

Put the CdS cells into #T359, with the side not coated with cementing agent faced inside, and at the same time attach the two lead wires vertical at their base, with lacquer.



4) Printed wiring plate

Do not fasten #T846 too firmly.

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§ 6. ADJUSTMENT OF THE EXPOSURE METER

In principle, the exposure meter is to be adjusted by means of the fixed resistors R_1 (T616), R_2 (T626) and R_G (T623), and not by means of adjustment of the filter on the CdS or that of the sensitivity of the meter. However, if need arises, the filter #132 for the Photomic-T can be used.

Replacement and readjustment are also carried out in the following way:

First, make temporary wiring.

It will be convenient to begin with

$R_1 = 50\Omega$, $R_2 = 400$ KΩ and $R_G = 3$kΩ, although any of R_1 and of R_2 within the range (see p.) can be taken.

1) Facing the meter toward the brightness of EV9, adjust the R_G until the pointer needle comes to the center.
2) Facing the meter toward the brightness EV15, observe the accuracy. If the indication remains within $\pm$ 1/2 step (in terms of the aperture of the lens), leave it. If the needle swings too much, increase R_1. If the swing is not sufficient, decrease R_1. However, it is desirable that R_1 be as large as possible within the range of 1/2 step.
3) Facing the meter toward the brightness EV4, observe the accuracy. If the indication is within $\pm$ 1/2 step, leave it. Too large swing needs the increase of R_1 and conversely, too little swing requires the reduction of R_1. It is desirable that the swing be as large as possible within the range of $\pm$ 1/2 step.

Note: In adjustment, take care to prevent the brightness of the surroundings from affecting the CdS.

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